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Virginia Commonwealth University

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This is to certify that the dissertation prepared by the Reverend Enid A. Virago entitled

Death Notification Skills, Secondary Stress, and Compassion Fatigue
In a Level One Urban Trauma Center

has been approved by her committee as satisfying completion of the dissertation requirement for the degree of Doctor of Philosophy.

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Death Notification Skills, Secondary Stress, and Compassion Fatigue
In a Level One Urban Trauma Center

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

by

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Abstract

This quasi-experimental design study compared two small samples of Emergency medicine residents after one group had an educational intervention on death notification skills and the other did not. Comparisons were made on residents' confidence in their communication, interpersonal skills and level of compassion fatigue/satisfaction and EM Residents' level of Secondary Traumatic Stress after an event of patient death and subsequent notification of Secondary Patients. Residents were interviewed to gather recommendations for designing death notification curriculum.

Over an eight month period, forty emergency medicine residents at two sites, control and intervention, completed surveys designed to provide quantitative data on self-confidence and stress related to recent patient deaths. Residents who participated in a death notification event completed the Secondary Traumatic Stress Scale. Interviews were conducted to gather information on the impact of the notification and recommend changes in curriculum at the experimental site.

The data infer that an educational intervention on death notification skills increased residents' confidence in their ability to give compassionate death notification to families as compared with the control group. Residents in the intervention and control group had no significant differences in their potential for compassion satisfaction. Residents who had the educational intervention showed less Secondary Traumatic Stress symptoms than their non-intervention counterparts. The intervention group showed less risk for burnout (although it would only be significant at $p < 0.10$).

The overall conclusion is that there is some evidence for a positive effect of the intervention. However, due to the small sample size the conclusion is tentative and more research is needed to evaluate the training.

Keywords: Physician communication, death notification, education, clinical training, secondary traumatic stress, burnout, compassion satisfaction.

Chapter One

Introduction

Emergency Medicine (EM) is the "medical specialty dedicated to the diagnosis and treatment of unforeseen illness or injury" (ACEP Board of Directors, 2008). Emergency physicians are the foundation of the United States health care system's patient safety net. Due to the emergency nature of unforeseen illness or injury, an unavoidable part of being an EM physician is to give death notification to surviving family members / Next of Kin (i.e., Secondary Patients) of patients who have died.

To give a sense of the magnitude of the possible number of EM notifications; "249,000 people died in Emergency Rooms in the United States in 2006" (Pitts SR, 2008). This is a "30% increase since 2004" (McCraig, 2006).

Previous studies on these topics have focused on medical specialties other than emergency medicine, such as internal medicine. These studies conclude that "physicians' emotional reactions to patient death can affect patient care and the personal lives of physicians" (Jackson, et al., 2005, p. 648). Whippen and Canellos (1991) reported that 56% of oncologists report frustration and a sense of personal failure in their practice. They conclude that coping with end of life care is the "single more important qualitative factor related to burnout" (Whippen, 1991, p. 1916).

Statement of the Problem

The purpose of this study is to evaluate the impact of training in death notification skills on EM residents' experience of giving death notification and level of Compassion Fatigue/ Satisfaction and Secondary Traumatic Stress in the Emergency Department of a Level One Urban Trauma Center.

Many patients' families learn of their loved one's death while sitting in a small room across from a tired, young EM resident who is trying to find the right words to say while struggling with personal feelings about their patient's death. The words spoken in that room will echo through a family's grief as they cope with their loss and could impact a resident's medical career and ability to give good medical care for a lifetime. If EM residents can learn to be part of an interdisciplinary team with good communication skills, sharing the load of death notification and delivering it in a humane way, the medical care of every patient that a physician treats will be altered in a positive manner. "If a physician is confident in his/her interpersonal skills they will be more satisfied with their professional life" (Jackson, et al., 2005, p. 648).

Purpose of the Study

The problem addressed in this study is whether training in death notification skills will help improve EM residents' confidence in their ability to deliver "bad news" and help mitigate Compassion Fatigue (CF) and Secondary Traumatic Stress Syndrome (STSS) resulting from the death of patients and subsequent death notification to Secondary Patients (Next of Kin/NOK). The problem is motivated by the related body of

literature which outlines the compassion fatigue and secondary traumatic stress experienced by physicians in training related to patient death and notification of Next of Kin (NOK). It is also motivated by this researcher's observations of deaths and death notifications in the Emergency Department.

In order to do this the author created, co-taught, and evaluated a death notification workshop for EM residents and measured residents' confidence in their ability to deliver "bad news" with a pre and post workshop survey. To gain a broad view of the EM resident's experience working in the Emergency Department, the author measured compassion satisfaction/fatigue and burnout near the beginning and end of their rotation. In addition, the author administered the Secondary Traumatic Stress Scale (STSS) to EM residents who give death notification at both sites and had semi-structured interviews with intervention site residents to elicit more specific information related to the secondary traumatic stress and recommendations for additions to future death notification curriculum.

This was a quasi-experimental design study. The experimental group was made up of the EM residents at the intervention site. The control group consisted of EM residents at the control site.

Rationale and Significance

One of the most difficult tasks of the Emergency Department resident is offering the "next of kin" compassionate and humane death notification. The sudden and unexpected death of a patient often leaves "green" physicians with "disturbing emotions that last for days to weeks and, at times, even years after the death. These deaths contain

elements of trauma, helplessness and guilt and generate questions of personal competence" (Jackson, et al., 2005, p. 648). Residents are often left with frustration and a sense of personal failure.

Studies have shown us that physicians need training and support in self-awareness and communication. Many medical schools have developed curricula in palliative care to help students understand the importance of communication skills and self-awareness when dealing with the emotionally difficult aspects of caring for dying patients and their families (Rhodes-Kropf J, 2005, p. 634). However, 40.8% of students who responded to the AAMC (Association of American Medical Colleges) said that their training in end of life care was inadequate (11,378 students responding) and 63% said they didn't believe they had communication skills necessary to interact with patients and health professionals (11,400 students responding; Association of American Medical Colleges, 2006).

The American College of Emergency Physicians (ACEP) and the Society of Teachers of Emergency Medicine (STEM) developed a Core Content of Emergency Medicine which outlined the central body of knowledge of Emergency Medicine and delineated the educational scope of postgraduate teaching and Continuing Medical Education (CME) (Graduate/Undergraduate Education Committee of the American College of Emergency Physician, 1979, p. 58). This core was revised in 1986 and included essential interpersonal skills: communication, empathic listening, objectivity, pain management, problem resolution, self-control, self-resolution, and grief reactions (Special Committee on the Core Content Revision, 1986, p. 853).

The June 1997 revision (Section 20.12.4) added competencies in effective patient–physician communication, diversity issues, hostile encounters/complaints, and

grief reactions (Task Force on the Core Content for Emergency Medicine Revision, 1997, p. 791). In this revision, the physician is required to demonstrate skills in delivering bad news such as death notification.

The ACGME (American College of Graduate Medical Education) defines their required Communication and Interpersonal Skills competency in this way, Residents must be able to:

1. Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patient's families, and professional associates.
2. Create and sustain a therapeutic and ethically sound relationship with patients.
3. Use effective listening skills.
4. Elicit and provide information using effective nonverbal, explanatory questioning and writing skills.
5. Work effectively with others as a member of a health care team or other professional group. (2008)

These skills are particularly important to the Emergency Physician because of the unique environment of the Emergency Department. To be successful, a physician must be able to establish rapport and trust quickly, gather information, assess the situation/ patient /family, and design a treatment plan/strategy. Given the interdisciplinary/ interdependent nature of the ED the physician must also be able to communicate clearly and respectfully with other staff members. These broad communication and interpersonal skills come into play in the critical encounter with a family (after a patient dies) when the physician must give death notification.

Researcher N.R. Angoff (2001) states “a clinical training environment that ignores or devalues compassionate responses in contradistinction to what courses in ethics and humanities espouse in the preclinical years may contribute to the training of cynical physicians”(p. 1017). The end result is physician burnout which includes symptoms such as emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment. All these lead to decreased effectiveness at work (Maslach, 1996). In fact, a study with Internal Medicine residents reported 76% of residents met criteria for burnout. These residents were significantly more likely to report suboptimal patient care practices (Shanafelt, 2002). Oncologists also report that high levels of burnout attributed to the stress of caring for dying patients (Kash . K.M, 2000, p. 1621).

The mantra of clinical training in medicine is “see one, do one, teach one.” Physicians in training rely on their Attending physicians to teach through modeling. This extends to learning the professional demeanor of a physician. Students often observe residents and Attending physicians in an effort to learn how to cope with the personal emotions evoked by a patient’s death. This hidden curriculum modeled by the residents and Attending physicians gives these messages: “doctors should not have emotional reactions to death; and death is a failure and caring for the dying is not an important part of medicine… and avoidance and doing one’s work were the coping styles that were modeled by the team” (Rhodes-Kropf J, 2005, p. 634). The hidden curriculum consists of those things pupils learn through the experience of attending school rather than the stated educational objectives of such institutions (Haralambos M, 2004, p. 751). In the case of clinical training it is how the medical community defines the important attributes of a physician.

When the medical educators fit a topic into the busy education schedule of medical students and residents, residents understand the implicit message that the topic is important. If support for physicians and coping with death/death notification is given attention, it will become a greater part of the student's understanding of a physician's professional identity. A death notification curriculum will give the message that doctors are human and as such, will have an emotional reaction to death of their patients. The second message is that death is an inevitable part of patient care and an important part of medicine. The last part of the message is that death notification can be done compassionately and there is a better way to do it.

P. Chen, in her book, *Final Exam,* discusses how she thinks about her conversation with family members after a patient has died. She no longer thinks about what she wishes she could do or could have done. Instead, she takes care to ensure that the patient's wishes are carried out and the family is respected (2007). It's not about her ego and what she should have done. Chen learned that even when a patient dies, the physician can have a substantial therapeutic effect on the patient's family. In other words, the surviving family members become the "secondary" patients.

The importance of training physicians in emotionally difficult aspects of their practice is beginning to be recognized and talked about, yet there is not standardized training and/or training for trainers. The ACGME formalized "communicating bad news" as a part of the curriculum only twelve years ago, but gave no instruction on how to do this. Given this climate of residency training programs wanting to do the right thing, but not necessarily having the tools or training, it is understandable there is a dearth of training for medical residents.

Brief Overview of Primary Literature

While many studies mention the lack of education in communication and interpersonal skills, the studies by (1) Jackson, et al. (2005), (2) Adamowski (1993), and (3) Hobgood (2005) provide the rationale for this proposal. The Jackson study concentrates on the effect of death notification on physicians. Adamowski designed and studied a new protocol for improving patient care and reducing staff's Secondary Traumatic Stress. Hobgood designed and evaluated the best recognized curriculum for death notification in the ED. Dr. Hobgood gave her permission for this researcher to adapt her curriculum for this proposed study.

Effect on Physician

Jackson, et al. (2005) conducted a three year longitudinal, mixed-method study to understand the death related emotional experiences of physicians and identify educational opportunities for improving patient care and physician well-being. The authors conducted ninety-minute semi-structured interviews related to their most emotionally powerful patient death. Quantitative data were collected through face-to-face surveys in which physicians rated (from one to ten) the emotional characteristics of, and emotional responses to, the death. Specifically, physicians were asked to describe their most powerful patient death, their emotional response/process, how they coped, and any subsequent behavior changes (Jackson, et al., 2005).

Overall, unexpected/sudden deaths produced the most disturbing reactions. These are the kinds of death emergency medicine physicians encounter routinely. In the study, physicians reported disturbing emotions that lasted for days to weeks to years after the

death. These disturbing emotions included elements of traumatization, helplessness and guilt, and raised questions of personal competence. Some of these feelings were so strong that physicians reported changing their bedside manner (to more distant or closer). Some physicians even changed their medical speciality as a result of their emotions.

The authors concluded that there would be value in Attending physicians using patient death events as "teaching moments" with their physician trainees. Jackson, et al. (2005) devised examples of questions that medical educators can be used to facilitate discussion with trainees. These questions were modified for use in the semi-structured interviews that took place after death events.

Secondary Patient Care and Staff Stress

Adamowski, et al. (1993) conducted a study designed to improve the care of the survivors and to help the emergency department staff become more comfortable and competent in providing support and assistance to the acutely bereaved. The study took place at an emergency department of a tertiary care, adult teaching hospital in Ontario, Canada.

While sudden unexpected death occurs more frequently in emergency departments than in any other part of the health care system, the researcher noted that medical and nursing staff receive little formal training or preparation for delivering the news of sudden death. They also acknowledged that the staff's own emotional response to death can impede their ability to interact with the secondary patient(s) constructively. This was especially concerning because research implies that appropriate intervention with the secondary patient has significant effect on their grief response and subsequent resolution of the loss.

This study included an educational intervention, open to all ED staff, on caring for Secondary Patients. It taught a structured, multidisciplinary protocol for notifying next of kin of death. Program outcomes were measured by comparing care satisfaction surveys from surviving family members before and after program implementation. The questionnaires covered topics such as the adequacy and timeliness of information provided, the support and actions by emergency department staff and the survivors' desire to be present during resuscitation efforts.

The results showed a significant (to .05) increase in secondary patient satisfaction in all areas. The authors concluded that "the grievous experience of learning that a loved one has suddenly and unexpectedly died in the emergency department can be alleviated somewhat by a structured, multidisciplinary approach combined with staff sensitization and education" (Adamowski K, 1993, p. 1445).

Curriculum

The Accreditation Council for Graduate Medical Education (ACGME) has created core competencies on Communication and Interpersonal Skills in the past two decades. Several curricula have been created, but there is no evidence that these are based on needs assessments or feedback from the target population. One of the EM curriculum constraints is the limited amount of time available for instruction.

Cheri Hobgood is the nationally recognized leader in training EM physicians in death notification. Hobgood designed and tested an educational intervention for improving the death notification skills of Emergency Medicine residents. Her two hour workshop targeted resident confidence, competency, and communication skills. The workshop included training segments including small group exercises, role plays, and

didactic experiences. The authors used a pre-post-intervention repeated measures design to test their hypothesis directly following the workshop and again, three months later. Hobgood used three quantitative measures; self-confidence, relationship communication, and competency. All of these measures were designed by the authors. Twenty residents were included in the study. Significant improvements were measured in areas of confidence and competency. There was no significant change in relationship-communication scores which were uniformly high at the beginning of the study. Hobgood concluded that a well-defined educational intervention that focused on the GRIEV_ING mnemonic can improve resident confidence and competency (Hobgood, April 2005). Mnemonics are used frequently in the sciences as a memory recall technique.

Initial Research Questions

The proposed study will be guided by the following two research questions:

1. What is the effect of death notification education on EM residents' confidence in their communication, interpersonal skills and level of compassion fatigue/satisfaction?
2. What is the effect of death notification education on EM Residents' levels of Compassion Fatigue, Satisfaction and Secondary Traumatic Stress after an event of patient death and subsequent notification of Secondary Patients compared to residents not receiving death notification education?

Methodology

This is a quasi-experimental design study. In the summer of 2009, all the Emergency Medicine residents at two sites were invited to take part in this study. The EM residents at the intervention site (*n*=27) received a death notification workshop. The EM residents at the control site (*n*=24) did not. EM Residents at both sites completed a battery of assessments related to their work as (EM) residents and giving death notification to surviving Next of Kin (Secondary Patients/NOK). These measures included the ProQOL R-IV Scale (Professional Quality of Life: Compassion Satisfaction and Fatigue Subscales), an Educational Needs Assessment survey (educational history), and a Death Notification Skills Confidence Survey. These measures were administered through Inquisite software and/or by paper survey.

Residents who have a death notification event were also invited to complete an on-line Secondary Traumatic Stress Scale (STSS). Residents at the intervention site were invited to have a short interview to discuss their experience.

The Independent Variables (IVs) were Death Notification Education and year of residency (1, 2, and 3). The Dependent Variables (DVs) were the EM resident's (a) level of confidence in his/her death notification skills, (b) level of compassion fatigue/satisfaction and (c) level of secondary traumatic stress.

The first of these tests, ProQOL R-IV was used to measure Compassion Fatigue/ Satisfaction and burnout before and after the study. This pre-post test was administered on-line or by paper survey to EM residents at the intervention site. The residents at the control site (a comparable site) took their surveys on-line only. The EM residents at the control site did not receive the Educational Intervention (Independent Variable). The

residents at both sites completed a Needs Assessment to get a baseline measure for their previous death notification education. ANCOVA and *t* tests were used to measure the relationship between residents at the two sites, amount of death notification education, Compassion Fatigue/Satisfaction, and Secondary Traumatic Stress Symptoms.

Administration of the ProQOL R-IV took place at the beginning of the death notification skills workshop at the intervention site. Hobgood's (April 2005) curriculum was adapted to reflect the urban trauma patient population. These residents completed a Confidence Survey pre and post workshop to test their perception of their death notification skills. An independent samples *t* test was performed to compare the levels of previous death notification education and the residents' pre-post workshop confidence levels. Residents at the control site completed the (pre) confidence survey and an independent samples *t* test was performed to compare the pre-confidence scores of the two groups. An independent samples *t* test was also performed to compare the means of the educational levels of both group's at the beginning of the study. A paired samples *t* test was performed to compare the experimental group's pre and post intervention confidence scores.

At both sites, EM residents, who had a death notification event, received the Secondary Traumatic Stress Scale (STSS). At the intervention site, these residents were invited to a short interview for the purpose of exploring their experience of the death and notification. This was taken as soon as possible after the death notification event. All participants were asked for their recommendations to improve death notification education. The STSS and interview data are reported as descriptive statistics and narrative as related to the emotional impact of the death notification event on the resident.

EM residents at the control site also completed the STSS after a death notification event. They were invited to participate in a short interview if they wanted to talk about their patient death and notification experience. None of the control site residents requested an interview. The STSS scores were analyzed using *t* tests to compare scores of those residents who had death notification training and those who did not.

Whenever possible, this researcher observed the treatment and death of the patient and subsequent notification of the Secondary Patient(s). At these opportunities, this researcher observed the resident's notification and completed the Death Notification Protocol Checklist. The short checklist was used in the workshop to teach residents the skills to give notification. These observation notes helped form the short interview probes.

Summary

The aim of this study was to evaluate the impact of training in death notification skills on the EM resident's experience of giving death notification and level of Compassion Fatigue/Satisfaction and Secondary Traumatic Stress in the Emergency Department of a Level One Urban Trauma Center.

The purpose of this quantitative, quasi-experimental study was three-fold; (1) to create, teach and evaluate a death notification workshop, (2) to gain further understanding of the stress of EM residents related to recent patient deaths, and (3) to identify the next phase of curriculum components for improving "secondary" patient care and EM resident well-being in the Emergency Room setting.

Having spent many hours in the company of grieving families and traumatized EM residents, it is the author's hope that this study may lead to a lessening of pain for those on both sides of a death notification event.

Chapter Two

Literature Review

It takes many years of schooling to become a physician. There are four years of undergraduate schooling, four years of medical school, and emergency medicine residency is three years. Why do people dedicate this many years of their lives to the goal of becoming a physician? On the website, aspiringdocs.com, people discuss why they want to become doctors. They use words such as "passion, a dream, a desire to help people, helping those in need, alleviating suffering, role model, more than a professional career" (Blogs, 2007).

How can people who are so motivated by compassion become physicians who need to be told how to "act" caring? In 1992, Spiro discussed the dehumanizing process of becoming a physician in the Annals of Internal Medicine, the "isolation, long hours of service, chronic lack of sleep, sadness at prolonged human tragedies, and depression at futile and often incomprehensible therapeutic maneuvers turn even the most empathic . . . from caring physicians to tired terminators. Our energy gets us into medical school and after that little time remains for contemplation" (p. 844). Four years later, Knopp wrote that while the doctor-patient relationship is important, medical school is focused on teaching the technological aspect of medicine and while there is "an increased interest in teaching communication skills in primary care training programs, residencies in other specialties give little more than lip service to such efforts" (p. 1065). Recent studies show that doctors spend an average of 18 seconds listening to a patient's symptoms before interrupting (Woods, 2004, p. 12). The author doubts those motivated students who are

entering medicine would include this kind of patient interaction in their dream of being a doctor.

It is this author's proposal that physician compassion fatigue can be lessened by giving medical residents the tools to act in compliance with their compassionate early ideals and to connect with patients as a caring human being. This research focuses on one of the most stressful responsibilities a physician has to his/her patients: the responsibility to deliver clear, humane notification to the families of those who have died.

The Practice of Emergency Medicine

The Emergency Room/Department (ED) has a unique environment. To be successful, a physician must be able to establish rapport and trust quickly, gather information, assess the situation/patient/family, and design a treatment plan or strategy. Given the interdisciplinary/ interdependent nature of the ED, the physician must also be able to communicate clearly and respectfully with other staff members. These broad communication and interpersonal skills come into play in the critical encounter with a family (after a patient dies) when the physician must give death notification.

Emergency physicians usually have no pre-existing relationship with the patient and have only a brief period of time to establish rapport, take a history, and communicate with the patient/family. They can't rely on prior knowledge or patient history to fill in the blanks in a patient's memory. They can't use the trust built from a long-standing doctor-patient relationship to help communication. Legally, no one in need can be turned away from an emergency department. As a result, Emergency physicians see a diversity of patients (age, gender, race, socio-economic status, ethnicity, spirituality, emotionality, sexual orientation, etc.) and must be able to meet all these patients' needs.

EM physicians require training to deal with patient situations that are unique to an emergency department. ED patients may be intoxicated, psychotic and high-risk. They are prone to leave against medical advice. EM Physicians must know how to work with emergency service workers such as EMS, disaster preparedness and management, etc. ED doctors have severe time constraints because of the number of patients and seriousness of patient conditions. They need to make quick decisions with a minimum of information. Many of their patients have long waits before being seen and may be upset about the wait. Patients and family members may hold unrealistic medical expectations of ED staff. Frequently, emergency patients arrive unconscious or have poor/unreliable memories or have altered mental state due to a loss of consciousness in a trauma. In addition, the EM doctor must be able to manage multiple patients simultaneously and be ready at any moment to treat a new critical patient.

Sudden Death in the Emergency Department

As a chaplain resident, when this researcher was paged to the ED it was either for a trauma or a death. Whether it was a death, by motor vehicle crash, stabbing or gunshot, suicide, poisoning, heart attack stroke, etc., the death was always unexpected to the family. This was true even if a patient had a long standing illness, such as heart disease and had a heart attack at home, in front of family members, or if the family called 911 and when EMS arrived the patient was dead. Even if the family witnessed all this and could relay it to the doctor when they arrived, they were still shocked when they were notified that their loved one was dead.

Kenneth Iserson, a leading expert in the field of death notification writes of death

in the Emergency Department,

> A sudden death is one that is unforeseen, unexpected, occurs with little or no warning, and that leaves survivors unprepared for the loss. …We (EM doctors) have no ingrained cultural responses to tell us how to deal with these crises… What survivors want most is a notifier who seems to care that their loved one has died—someone who will inform them in a warm, sympathetic tone of voice. (Notifying survivors about sudden, unexpected deaths, 2000, p. 264)

Barriers to Good Doctor-Patient Communication

In a fast paced emergency room where the entire staff is anticipating the next trauma/emergency, a physician may find it difficult to make the necessary shift from dealing with medical trauma to managing family drama. The transition required is from the trauma bay where feelings must be put away or risk interfering with patient treatment to a scenario where empathetic doctor/patient communication is the initiation of a healthy grief reaction.

The resident's goal in delivering a death notification to Next of Kin is to communicate the news in a way that causes no additional harm to the recipients or to themselves or other patients. The manner in which death notification is delivered can help or hurt the grief process for survivors (Dubin, 1986). If it is delivered well, it helps the family begin a healthy grieving process by dispelling questions about how the person died, (if possible) assuring them that their loved one didn't suffer, and showing genuine caring (which reassures the family members that their loved one received caring treatment in their final moments).

If it is delivered poorly, the family can be left angry, unsettled, questioning how their loved one died and the manner of care their loved one received. This can complicate the grief process because the survivors focus on their unanswered questions rather than building the deceased's life legacy, memorializing them and incorporating their death into the survivors' lives/identities. It is human nature to avoid emotional pain if possible. Unanswered questions can be a compelling diversion from grief.

Iserson charts the difference between expected and unexpected deaths which illustrates how disruptive a sudden death can be to the survivors. This is shown in Table 1.

Table 1

Expected versus Sudden, Unexpected Deaths

Characteristic	Sudden, Unexpected Death	Expected Death
Approach of death	Immediate or in a short time	Gradual
Nature of Illness or Injury	Acute process or acute worsening of a stable chronic illness	Chronic – usually an illness or combination of illnesses
Causes of death	Disease, suicide, homicide, accidental, disaster or unknown cause	Usually disease or a result of aging processes
Age of decedent	Any age, commonly young or middle-aged adults, fetuses, and neonates	Usually elderly but can occur at any age
Place of death	Usually in public, emergency department, Intensive care unit or at home or at work	Usually home, hospital, or nursing home
When death occurs	At the time of or shortly after the acute event	Months to decades after diagnosis of chronic disease occurring in old age
Survivor reaction	Disbelief, sock, grief, dismay, disorganization, hostility, and fear	Grief
Survivor involvement	Usually not present at death; appear gradually at death scene or emergency department	Often present at death or aware of pending death
Site of last contact with medical personnel	Public space, home, or emergency department	Hospital, home, hospice, or nursing home
Resuscitation procedures	Often performed	Rarely performed; advance directives often available
Patient identity	Known or often, at least initially, unknown	Usually known
Autopsy	Frequent and done by medical examiner or coroner	Rare, and when done, usually by hospital pathologist
Family immediate after-death rituals and requirements	Usually not prearranged	Often prearranged by dying person or family in anticipation of death

(Iserson K. , 2000, p. 263)

Effect on Physician

Iserson (2000 p. 264) states that delivering death notification is one of the most stressful parts of a physician's practice because of the physician's (1) lack of training and experience, (2) fear of being blamed, (3) lack of knowledge about how to cope with survivors' emotions, (4) fear of expressing their own emotions, (5) fear of not knowing the "right" answers, and (6) fear of their own death.

Jackson, et al. (2005) conducted a three-year, mixed method study to understand how patient deaths affected the physicians' professional and personal lives. They surveyed and interviewed 144 physicians at various stages of their careers/training at two large medical centers. They found several common themes regarding how patient death affects physicians: personal experience with loss, identification with patients or patients' families and a sense of responsibility.

Physicians' personal experience with loss affected their responses/perceptions of their patients' deaths. The level to which the doctors identified with their patients or their patients' families created a more intense emotional reaction to the death. Physicians in training were more likely to have an inappropriate sense of responsibility for the death and were apt to attribute the death to their lack of abilities.

Similar to survivor reactions, when there is a lack of intellectual and emotional closure for physicians, they often reported having complicated reactions to the death. They felt guilt about the treatment they provided. The lack of emotional closure for the physician (in patient deaths) had lasting effects.

Jackson, et al. also found that physicians' bedside manner could change permanently as a result of patients' death. Some physicians reported wanting to get closer to their patients and some reported the opposite. This phenomenon warrants further study.

"Shocking or unexpected" deaths were particularly hard on residents. They described their experience using words like avoidable, uncertain, unexpected, shocking, inadequate, and guilty. Possibly due to lack of experience, physicians in training were more likely to rank deaths as shocking or unexpected than their more seasoned colleagues. This led to feelings of suffering and a sense of personal failure. As doctors gain experience this sense of shock and guilt lessens, but the damage is already done.

A physician in training who moves from the Trauma Bay (trauma treatment area) to the Family Room (a small private room where patient updates/death notifications take place) brings with him/her their feelings of failure, inadequacy, and guilt. These feelings can make it difficult to function as an initial supporter and counselor to the patient's family. The notifying doctor's feelings need to be compartmentalized in order to serve/treat the survivors (Secondary Patients). A resident needs to make the shift from giving emergency treatment to focusing on being the reassuring, caring presence the secondary patients need. A calm demeanor and time, at a premium in the ED, are required. Good death notification means the doctor must give the family their full attention, monitor the family's need for silence and encourage appropriate emotional reactions by the family. They also need to inform the family about procedures such as autopsy and viewing of their loved one. In many cases, the family may look but not touch their dead family member because there may be evidence on the body which must be collected by the medical examiner. The most comfort a family can have in this case is to

see their loved one and know that they can request to touch their loved one at their chosen funeral home before embalming. The doctor is responsible for initiating the family's grief work through the private viewing of the deceased, which confirms the reality of the situation and gives family members a chance to say goodbye (Phipps, 2002). In these cases, the doctor must display sensitivity, and provide adequate time to counsel distressed relatives (Kendrick, 1998).

Compassion Fatigue

All of this pressure can lead to compassion fatigue and eventually, burnout. The term compassion fatigue comes from the abstract idea of compassion. The 2007 Encarta Dictionary defines compassion as "sympathy for the suffering of others, often including a desire to help" and compassion fatigue as a "loss of sympathy: a loss of sympathy for the suffering of others experienced by donors or caregivers as a result of the demands made of them" (Corporation, 2009). Compassion is a desirable trait in our physicians.

The term "compassion fatigue" was first coined in 1992 by Joinson while he was investigating burnout in nurses (Joinson, 1992). In 1995, Figley made the case that compassion fatigue is a consequence of working with people who have experienced trauma or extremely stressful events in their lives. Compassion fatigue develops from empathetic caregivers' exposure to the traumatic events of the persons they are caring for. (Figley, 1995) The process of caring for traumatized populations falls to social workers, medical personnel, therapists, etc. and in caring for their patients/clients they share the emotional burden of patient/clients by bearing witness to damaging and cruel events.

Both First Responders and Secondary Responders are at risk for compassion fatigue. In the case of crisis situations, "first responders" are the emergency workers who arrive on the scene of an emergency and give immediate aid to the victims. This includes police, firefighters, paramedics, etc. "Secondary responders" receive the victims from the first responders and treat the victims. For example, the responsibility of paramedics is to get a trauma victim the appropriate level trauma center in the best possible physical condition. Their focus is very specific and narrow; keep the person alive until they can get to the hospital. They hand off the victim to the hospital trauma staff, whose responsibility is to diagnose and treat any immediate, life-threatening condition, stabilize the patient, and "turf" (transfer) the patient to the appropriate medical service within the hospital.

Janoff-Bulman (1992) found that therapists who work with trauma had problems maintaining their feeling of invulnerability, questioned the world as meaningful and their positive self-perceptions. While the aforementioned studies were psychological in nature, the research found that it is the therapist's repeated exposure to client's memories of the trauma that put the therapist at risk for significant emotional, cognitive and behavioral changes. An Emergency Medicine physician has repeated exposure to trauma which is direct, not filtered through the client's memory as in psychotherapy. An EM doctor stands in the patient's blood pool on the floor, cuts open the chest for open heart massage, probes for the knife wound path with his/her fingers, etc. A psychotherapist can have some control over when they will see their patients and how far the therapy will progress that day. In other words, a psychotherapist has a certain amount of control over their

exposure to secondary trauma. An EM doctor has to be prepared for whatever may come through the door in the next few minutes from the moment they begin their shift.

Further studies in this field found that this vicarious traumatization could result in "significant disruptions in one's sense of meaning, connection, identity and world view, as well as affect one's tolerance, psychological needs, beliefs about self and other, interpersonal relationships, and sensory memory'' (Pearlman, 1995a, p. 151). Figley (1995) went on to name this psychological process as Secondary Traumatic Stress and define it as ''the natural and consequent behaviors and emotions resulting from knowing about a traumatizing event, the stress resulting from helping or wanting to help a traumatized or suffering person'' (p. 7).

Secondary Traumatic Stress is similar to Post Traumatic Stress except that the exposure is indirect. Its symptoms are the same: intrusive imagery, avoidance, hyperarousal, distressing emotions, cognitive changes, and functional impairment. Figley (1995, 1996, 2002) introduced compassion fatigue as a more ''user-friendly'' term to describe the phenomena of secondary traumatic stress. All these terms refer to the negative impact on the caregiver resulting from working with traumatized clients/patients.

Not every caregiver who works with traumatized patients develops Compassion Fatigue. Stamm (2002) suggests that there is a positive aspect of trauma work that sustains and nourishes caregivers. She believes it is the (compassion) satisfaction derived from helping others. In her work she suggests a balance between the two types of satisfaction and that they may be experienced simultaneously. However, if compassion fatigue increases, it can overtake the caregiver's sense of compassion satisfaction.

The purpose of assessment tools such as the ProQOL and Secondary Traumatic Stress Scale is to increase caregivers' self-awareness so they may monitor their level of compassion fatigue. The hope is that self-awareness will give caregivers the ability to use self-care techniques and professional resources to reduce their fatigue. This will benefit all involved because caregivers suffering from CF are more likely to misdiagnose patients, abuse the therapeutic relationship, and provide poor treatment planning (Rudolph, 1997).

ProQOL Measure

The researcher will be using the ProQOL: Professional Quality of Life Scale, compassion satisfaction/fatigue and burnout (Stamm, Measuring Compassion Satisfaction as Well as Compassion Fatigue: Developmental History of Compassion Fatigue and Satisfaction Test, 2002). This uses a six point Likert scale; 0=never, 1=rarely, 2=a few times, 3=somewhat often, 4=often, and 5=very often. This assessment is composed of three discrete subscales. The first subscale measures compassion satisfaction; defined as the pleasure derived from being able to do one's work (helping others) well. Higher scores on this subscale represent greater satisfaction related to one's ability to be an effective caregiver. The second subscale measures burnout or feelings of hopelessness and difficulties in dealing with work or in doing one's job effectively. Higher scores on this subscale represent a greater risk for burnout. The third subscale measures compassion fatigue/secondary traumatic stress, with higher scores representing greater levels of compassion fatigue/secondary traumatic stress. Measurements are discussed in Chapter Three.

Secondary Traumatic Stress Syndrome

Three terms currently used interchangeably to describe the negative effects of working with traumatized clients/patients are compassion fatigue, secondary traumatic stress, and vicarious trauma. Previous terms for these symptoms in caregivers have included traumatic counter-transference (Herman, 1992) and burnout (Pines, 1993). The concept is based in constructivist self-development theory, a developmental, interpersonal theory explicating the impact on an individual's psychological development, adaptation and identity. For the purpose of this study, the researcher will use the term secondary traumatic stress (STS) defined as the presence of post-traumatic stress disorder symptoms in caregivers, which are probably connected to the patient's experience and secondary to the caregivers' (Figley, 1995; Pearlman, 1995a; Stamm, Secondary Traumatic Stress; self-care issues for clinicians, researchers, and educators, 1999).

The field of STS is less than twenty years old. The research has focused on describing and defining the condition in caregivers. In a four year review of literature, the researcher has not found a single study that investigated the syndrome in the Emergency Department, let alone within EM residents. This research hopes to contribute to the field by adding information on that population and setting.

Much of the research has been done with the psychological helping professions. Schauben & Frazier (1995) assessed the psychological effects of counselors working with sexual violence (n=148), who worked with sexual violence survivors, to assess the psychological consequences of such work. Out of this study came their definition of vicarious traumatization as the enduring psychological consequences for therapists of

exposure to the traumatic experiences of victim clients. However, this study was limited because it only studied female counselors who treated sexual abuse.

In the same year Pearlman & MacIan (1995) studied a sample of self-identified trauma therapists (*n*=188), of whom 136 were female and 52 male. Their findings were consistent with previous research on burnout. They concluded that younger clinicians or people new to the field were more likely to experience negative personal consequences to providing treatment to traumatized patients. This is similar to the previously mentioned findings of Jackson, et al. that caregivers new to the field are more likely to suffer symptoms of STS than experienced caregivers. The limitations to this study include a very low (24%) response rate and a sampling issue; subjects were self-selected/self-identified "trauma therapists". This makes the ability to generalize troublesome.

Researchers have found a positive correlation between reduced longevity of career, large caseloads, increased contact with clients and long working hours and STS (Beaton, 1995). In 1995, Figley conducted a meta-analysis of the literature in order to break down the definition into testable components. He categorized these reactions into three key areas. They are:

1. Indicators of psychological distress or dysfunction.
2. Cognitive shifts.
3. Relational disturbances.

Indicators of Psychological Stress/Dysfunction.

Included under indicators of psychological stress/dysfunction are:

•distressing emotions, including sadness or grief, depression, anxiety, dread and horror, fear, rage, or shame (Clark, 1998; Harbet, 1991; McCann, 1990).

•intensive imagery by the trauma worker of the client's traumatic material, such as nightmares, flashbacks and images (Figley, 1995; Herman, 1992; McCann, 1990; Stamm B. H., 1995).

•numbing or avoidance of efforts to elicit or work with traumatic material from the client (Figley, 1995; Herman, 1992; McCann, 1990).

• Somatic complaints, including sleep difficulty, headaches or gastrointestinal distress (Figley, 1995; Herman, 1992).

• Addiction or compulsive behaviors, including substance abuse, workaholism and compulsive eating (Dutton, 1995).

• Physiological arousal, such as palpitations and hyper-vigilance (Clark, 1998; Davis, 1996).

and/or

• impairment of day-to-day functioning in social and personal roles, including missed or cancelled appointments, decreased use of supervision, chronic lateness, and feelings of isolation, alienation, or lack of appreciation (Dutton, 1995).

Cognitive Shift.

Cognitive shifts refer to the experiences of trauma caregivers who have shifts in their beliefs, expectations and assumptions (Jannoff-Bulman, 1992; McCann, 1990). These include changes along these cognitive continuums.

• Dependence/trust to reveal a chronic suspicion of others;

- Safety to a heightened sense of vulnerability;
- Power to an extreme sense of helplessness; and
- Independence to a loss of personal control and freedom.

In addition, Herman (1992) found that many therapists have 'witness guilt', meaning the therapist feels guilty for their life (style, health, etc) while they observe survivors struggling. Dutton & Rubinstein (1995) noted that the new counseling professional may feel heightened guilt when the survivor re-experiences the trauma through necessary interview or therapeutic procedures. Herman also describes a type of victim-blaming that occurs when caregivers perceive their clients/patients as threatening, manipulative, or exploitative. This researcher has observed similar phenomena in the Trauma Room when an intoxicated patient from a motor vehicle crash (MVC) arrives and is thrashing or abusive to the medical staff (to the point of interfering with treatment). There were some days when the staff had little tolerance for that behavior and that patient was quickly sedated and intubated so that the injuries could be treated. While there is a medical justification for sedating or intubating a patient in these circumstances, the satisfaction displayed by some medical staff was indicative of their relief at not being victimized by the patient. Other times, the researcher noticed a difference in the approach to the patient if the patient was seen to "deserve" their injury. This could have been because the patient was thought to be involved in illegal activities while injured or their behavior had injured someone else. This cognitive schema might be part of the reason for "emergency room humor" and would be worth future investigation.

Relational disturbances.

Caregivers were also found to have negative changes in their relationships, both personal and professional related to trust and intimacy (Clark, 1998; White, 1998). In professional situations, the worker may alter the professional relationship through dynamics of detachment or over-identification (Dutton, 1995). Detachment would be used by the professional for distancing oneself from the client/patient's trauma which could result in the client/patient feeling isolated and alone. Over-identification hurts the therapeutic relationship because the caregiver loses their perspective or therapeutic distance and this reduces their effectiveness. It can also create a role-reversal situation if the client/patient senses that the caregiver is suffering. In this case, the patient/client might protect the caregiver by a lack of disclosure. This would leave the caregiver without the necessary information to give appropriate treatment and could create/continue psychopathological client behavior.

On the personal level, some caregivers cope by withdrawing from family, friends, or colleagues. Dutton & Rubinstein (1995) theorize that trauma workers may isolate because they perceive that they are the only one who feels traumatized by such difficult and painful work and this contributes further to the trauma workers' problems. This would also be worth future study in the resident population, because it might give some insight into who residents talk to about their response to their work.

Secondary Traumatic Stress

The study of Secondary Traumatic Stress (STS) arose out of the observation that caregivers who come into continued close contact with trauma survivors may experience

considerable emotional disruption and may become indirect victims of the trauma themselves. Charles Figley, a leading expert in Secondary Traumatic Stress and Compassion Fatigue defines "the natural, consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person" (1999, p. 10). The symptoms of STS are nearly identical to Post-Traumatic Stress disorder. The difference is that the caregiver is not the primary victim of violence or trauma. Instead, the exposure to a traumatized person is the traumatizing event for the caregiver.

This correlation is well supported by research going back as far as 1974. Chrestman (1995) noted that secondary traumatization of clinicians has been hypothesized to include symptoms parallel to those observed in persons directly exposed to trauma, such as intrusive imagery related to the client's traumatic disclosures (Courtois, 1988; Danieli, 1988; Herman, 1992; McCann, 1990), avoidant responses (Courtois, 1988; Haley, 1974), physiological arousal (Dutton, 1995) (Figley, 1995; McCann, 1990), distressing emotions (Courtois, 1988; Herman, 1992), and functional impairment (Dutton, 1995; Figley, 1995; McCann, 1990). Thus, secondary traumatic stress is defined as a constellation of symptoms nearly identical to those of posttraumatic stress disorder including symptoms of intrusion, avoidance, and arousal.

Curriculum

There is a general consensus in the literature that education of students and residents in death notification skills is limited or non-existent in medical school or residency (Girgis. A., 1997; Pollack, 1999; Phipps, 2002). There are also

recommendations that these skills be taught and that this would benefit survivors as well as physicians. Benson (2003) writes that of the 42 new residents (representing 28 United States medical schools) in his program, only 12% have had training in death notification. He believes trained physicians would increase survivors' acceptance of their loss and in the initiation of their grief process.

This dearth of training is not limited to the United States. Dent surveyed 1,064 house staff (residents and fellows) in England and found that 75 % had not been taught how to deliver death notification effectively and with empathy (Dent, 1990). In a study of Australian interns, the researcher compared self-reports of competency. Campbell found that while 64% of interns were confident in their technical skills, only 35% felt competent at communication skills, such as delivering death notification (1998). To make matters worse, Gordon found that the communication skills interns had when they entered their residency deteriorated during their internship or first year of residency (Gordon, 1992).

Parks (1972) suggests the use of protocols to teach communication skills. Protocols are a mainstay in medical education. Protocols help notifiers prepare for their task and help them understand what to expect. Protocols combined with staff education have made significant differences in how survivors perceive and respond to sudden-death notifications (Adamowski K, 1993). Protocols are defined medical intervention designed to create certain patient outcomes. Protocols can also be specific to a setting. For example, at the intervention site physicians don't ask families about organ donation. There are specially trained chaplains to team with LifeNet, an Organ Procurement Organization (OPO) to "make the ask". This protocol may be unique to the intervention

site. Within an organization, protocols are often standardized so that medical teams all know the same protocols and can step into a situation if needed. Similar to how every trauma room is standardized or set up exactly the same (same tools, medication, etc. are in the same place in each room), staff members know the overall protocol and can join a protocol in progress and carry out their responsibilities. Protocols can be set up for communication skills. The outcome is to minimize harm to the resident and the resident. The GRIEV_ING Protocol list used in the workshop is found in the Appendix (page 152).

The GRIEV_ING protocol is a step by step, defined set of behaviors designed to reduce the (secondary) stress for all involved. Given the fact that 70% of physicians find death notification personally difficult (Iserson K. , Notifying survivors about sudden, unexpected deaths, 2000), it is the researcher's goal to reduce STS through an educational intervention that includes a protocol that students can carry with them.

There are challenges specific to an educational intervention in the Emergency Department. Time is at a premium. Clinical shifts and residency conference time are very busy and there are many interests competing for physicians' time. Time with patients is also short and apt to be interrupted if a more critical patient arrives.

There is a conundrum. In medicine the adage for teaching/ learning is "see one, do one, teach one". The "see one" is dependent on being able to observe someone who is an expert in what the physician is trying to learn. The historic lack of training in communication skills means there are relatively few physician communication experts available to proctor residents in this area. Here is where the "hidden curriculum" comes into play. The hidden (or informal) curriculum theory is that "cultural mores exhibited by

students, residents, teachers, and administrators at an institution transmit strong messages, which are learned and internalized by novices. These messages may have more educational impact than the lessons taught by the faculty in the formal curriculum" (Branch, 2001, p. 1068). If residents/novices observe little or poor communication or do not observe doctors (whose patients have died) showing emotions or talking about the loss, the hidden curriculum is giving them a powerful message. The message is that fully accredited doctors behave in that manner.

The physicians who have great communication skills learned them by trial and error, from some other part of their life history, or had one of the rare physician communication experts who taught them. Proctoring takes time to deliver information and correction. If there were time in the ED (or using what time is available), proctoring relationships could reinforce what the formal education provided in an intervention/workshop. However, there is some question about whether residents would use this option. Studies are inconclusive about who residents talk to about emotional experiences. Organizationally speaking, they should be talking to their training (Attending) physicians, but that could be contrary to the hidden curriculum. There is also a power differential in the relationship that may preclude intimate communication. EDs are hierarchical places. Someone has to lead; someone has to be responsible for making the life saving decisions. The Attending physicians have that role and also, evaluate the residents. It is human nature that one doesn't want to show weakness to an evaluator, especially if the hidden curriculum says that real physicians don't show weakness. It seems impractical to depend on residents showing their emotional/professional vulnerabilities to their supervisors (evaluators). This researcher hopes to study this area in

the future because it would be advantageous to all concerned if the hidden curriculum included healthy communication.

Another challenge in designing a curriculum for the ED is that it must reflect the setting. This researcher has discussed, at length, the unique environment of the ED and its communication challenges. The researcher has the advantage of having worked in that environment and of having a current working relationship with the medical staff there. Dr. Dhindsa and Dr. Renee Reid have been particularly involved in critiquing the curriculum, ensuring continued ED access for the researcher, and taking care of the logistics in this study as well as the workshop. They also co-taught the workshop.

Objectives and Methods

The object of the workshop was to teach residents to communicate death notification with the least harm to themselves or the secondary patients. Communication is a set of verbal and non-verbal behaviors. It can be taught using the educational methods common at this level of medical training. There are M & M rounds (Morbidity and Mortality) where the treatment of patients who have died is discussed. This option was offered to the researcher by Dr. Reid, but given that the timing of the study coincides with the beginning of a new resident year, the study was incorporated into the training schedule for the beginning of the new year. The intervention site ED decided it was best to repeat the workshop twice to be able to reach all the residents during this time of transition. The first session was for current and outgoing residents. The second session was part of the orientation for new residents.

The workshop was part lecture/PowerPoint and part role plays/ discussion. The curriculum was an adaptation of Dr. Cheri Hobgood's nationally recognized workshop. The role plays reflected a Level One urban trauma center patient population.

The Society for Academic Emergency Medicine (1997) states that the current (communication) assessment process among residencies is probably inadequate for several reasons:

> 1. No consensus criteria for competency in communication have been developed specifically for EM.
>
> 2. Most EM residency programs rely on infrequent and informal observations of residents in their interactions with patients.
>
> 3. Assessments made by faculty members may be unreliable. Faculty must be trained to assess specific behaviors in order to make accurate observations.
>
> 4. Occasional observations are invalid. Observations must be made repeatedly over time, and involve multiple observers (SAEM Task Force on Physician - Patient Communication, 1997, p. 75).

Iserson puts the philosophy of death notification education in the ED best when he says,

> It often takes imagination to put oneself in the position of a grieving survivor, especially when wide cultural or age differences exist. Imagination, studying people, advance planning, and learning from experienced mentors is the only way to successfully perform this necessary but tragic task… Even if you cannot learn to empathize with survivors whose life experience may differ considerably from yours, you can learn to behave appropriately, speak correctly, and assist them in

their time of grief. (The Gravest Words: Sudden-Death Notifications and Emergency Care, 2000, p. 261)

Secondary Patient Care and Staff Stress

The Effect on Families or What's at Stake?

McAvoy describes the increased morbidity and mortality among bereaved people as the "broken heart syndrome" (1986). Culturally, we have been aware of the vulnerability of the bereaved for many years. It is reflected in phrases such as scared to death and a broken heart. In 2005, Wittstein (2005) found that stress cardiomyopathy, is a syndrome of profound myocardial stunning precipitated by acute emotional stress. This can happen in people with no coronary disease. Emotional stress can precipitate severe, reversible left ventricular dysfunction. The cause is attributed to exaggerated sympathetic stimulation. Future studies are warranted in the area of death notification and subsequent survivor health.

Multiple studies have concluded that the staffs' manner and attitude and the level of assistance can have far reaching positive or negative effects on the grieving process for families with a potentially poor outcome (Dubin, 1986; LeBrocq, 2003; Parrish, 1987).

There is a lot at stake when a physician notifies the secondary patient(s) of the death of their loved one. Iserson (Gravest Words: Sudden Death Notification and Emergency Care, 2000 p. 261) states there are five points to keep foremost in our minds in order to give good death notification:

- A sudden, unexpected death leaves survivors unprepared for their loss.

- Physicians can learn effective techniques for notifying survivors about this manner of death.
- It is important to use non-medical language when preparing survivors for the news.
- What survivors want most is a notifier who seems to care that their loved one has died.
- Notification protocols can help notifiers prepare for the task and help them understand what to expect.

Neglected Patient… The Survivors

Dr. Kenneth Iserson describes how medicine must change the way it thinks about caring for survivors,

> … we often use the terms 'care' and 'treatment' interchangeably. That is inaccurate. Although they do not need treatment, survivors require our care—informed by specific knowledge, educated experience, and a compassionate attitude. We will never save everyone we attempt to resuscitate; there will always be bereaved family and friends…. these heretofore neglected patients—the survivors (The Gravest Words: Sudden-Death Notifications and Emergency Care, 2000, p. 78).

Iserson describes the anticipation often felt by an EM physician as they ready themselves to deliver bad news,

> Unwillingly, they (families) often arrive at our EDs… We knew each other not at all 15 minutes ago, (now we are) about to experience a "defining moment in their lives… [a] horror I am about to share with them." Unexpectedly they become our newest patients. The question we must ask ourselves is, Are we prepared for them? (The Gravest Words: Sudden-Death Notifications and Emergency Care, 2000, p. 75)

A survivor's unexpected loss is often accompanied by a sense of being separated from reality, being lost or suspended from life, inability to concentrate, indifference to immediate needs, disbelief that the decedent is really gone, and feeling that life can never be worth living again. The manner of death may complicate the grief experience further. Sudden, unexpected deaths may include elements of violence, destruction, humiliation or degradation. There were many notification events this researcher observed during her residency where the deceased was the main provider for the family (through legal or illegal means). The families of these patients received the news with additional fear and confusion. Sudden death means a major life transition for survivors; women go from being wives to being widows, children become orphans, and friends survive alone. Physicians are well aware that the news they bring will initiate these changes.

Doing it Right

Updating the family

In the event of trauma admissions, at the control site, the chaplains or nurses are responsible for greeting the family and keeping them informed as their loved one is

undergoing treatment. They sit with the family for ten minutes or so and then go to the treatment area for an update. If the patient is not likely to live, the chaplain or nurse begins to give "preliminary suspicion announcements" which are a gradual build up to the expected tragic news. Oftentimes professionals refer to this technique as "presaging" or allowing survivors' time for "anticipatory grief." Among staff, it is called by a less formal name, "hanging crepe". Families appreciate this technique because it alerts them to the patient's critical condition and gives them a short time to prepare themselves.

Effect on Staff

In an interdisciplinary setting such as the emergency department, it is understandable that when there is a patient death, the stress is felt throughout the staff. It is not only the physicians who have not been trained in death notification; the other medical personnel (respiratory therapists, radiologists, forensic nurses, EM nurses, etc.) have had little formal training or preparation for delivering the news of sudden death (Hamilton, 1988; Schmidt, 1992). Few emergency department personnel are prepared for the emotional turmoil that can accompany the disclosure of such a catastrophic loss (Adamowski K, 1993; Soreff, 1979). Emergency Medicine professionals need special expertise in many areas such as cardiac arrest, multiple trauma, and poisonings. It would behoove the profession in general to include training in caring for the suddenly bereaved.

Similar to the EM physician, staff describes the barriers to giving good care to the grieving family as limited resources and time, lack of knowledge of the best thing to do or say and a staff member's own grief response.

In a study of ED staff, Williams (1995) noted nurse's awkwardness. He discusses their openness about saying they would like to avoid secondary patients because they don't know what to say or how to best help make terrible news more bearable. As the physician or other medical staff prepares to encounter the family their thoughts may still be reviewing their treatment of the patient and the circumstances leading to the death. It would certainly be understandable that they could carry self-doubt and anxiety into the family room.

Part of the complex nature of death notification is that every family and patient is different. It takes time and staff support to know enough about the situation to tailor the staff's approach to notification. Add multicultural considerations such as culture and religion, and death notification becomes even more daunting.

Generally, relatives want honest information, sensitively delivered in plain language, as soon as possible after their arrival. They want to know about pre-hospital events and what has happened since the patient's arrival and subsequent demise. They will be seeking reassurance that everything possible was done and that it was done 'appropriately'. They do not want to feel rushed by staff.

Compassionate Detachment

There are many different ways for a physician to avoid an unpleasant or frightening aspect of their work. Some professionals pass the responsibility to someone lower in the hierarchy. The justification may be that the resident needs to learn how to perform a notification. However, Iverson posits that even in this situation the resident should be accompanied by an experienced, supervising mentor. He further notes that

"When reluctant notifiers must speak with survivors, they often use a standard, rapid, unconcerned approach as a defense. Others, even those who try to do a good job, just "wing it," using whatever method seems best. For professionals, these can be career-crippling strategies" (Iserson K. , 2000, p. 264).

Physician self awareness can be a great help in conducting a good notification. If a physician is self aware they can control over-identification with the secondary survivors and avoid becoming tangled in their own emotions while trying to notify a family. This allows the resident to be compassionate while remaining detached (from over-identifying with the secondary patient). This compassionate detachment is a healthy mindset in which to approach the death notification event.

Death notification will always be a heart-wrenching, difficult task. If the notifier is genuine, warm and respectful of the survivors and uses active listening, empathy, and openness, their goal to communicate the news in a way that causes no additional harm to the recipients or to themselves or other patients, can be reached.

Chapter Three

Methodology

Quasi-experimental Design

A quasi-experimental design (QED) is similar to experimental design but lacks random assignment of subjects. QEDs are used to look for causal inference. Causation implies that by varying one factor, another factor will vary. QED design increases statistical power by constructing data sets to reduce or eliminate the need to model the effects of some variables. Causal inference can be made by association, direction or elimination of potential common cause.

In causal hypothesis tests, the central inferential question is whether any observed outcome differences between groups are attributable to the intervention or to some other factor. In order to establish internal validity of such a study, the researcher must demonstrate that the program and not some plausible alternative explanation are responsible for the effect.

Cook and Campbell (1979) argue that three conditions must be met before we can infer that such a cause-effect relation exists:

1. Covariation. Changes in the presumed cause must be related to changes in the presumed effect. Thus, if we introduce, remove, or change the level of a treatment or program, we should observe some change in the outcome measures.
2. Temporal Precedence. The presumed cause must occur prior to the presumed effect.

3. No Plausible Alternative Explanations. The presumed cause must be the only reasonable explanation for changes in the outcome measures. If there are other factors which could be responsible for changes in the outcome measures we cannot be confident that the presumed cause-effect relationship is correct.

There are also some issues with QED modeling. There can be irresolvable causal dependencies where equivalence classes of models can show different causal implications. When this happens, large data sets are needed to help resolve these issues.

There are a number of designs within QED. The twin design controls for the value of some potential common causes within specified pairs of instances. In nonequivalent groups design, subjects have not had random assignment. In its simplest form it requires a pretest and posttest for a treated and comparison (control) group. The regression discontinuity design identifies cases where treatment is based on a single variable. It includes assignment to treatment using a cutoff score on a pretreatment variable. Other examples of QEDs include Proxy Pretest Design, Double Pretest Design, Nonequivalent Dependent Variables Design, interrupted time series designs, Pattern Matching Design, and the Regression Point Displacement design.

Compared with true experimental designs, QED has an increased threat to internal and external validity. Some of these threats generally include selection bias (samples are not equivalent), testing bias (issues with repeating the same test), performance/ intervention bias (related to blinding), mortality (drop out), instrumentation bias (change caused by method of measurement, not intervention), history bias (external events impact change), maturation bias (trend in the outcome of interest), regression to the means

(groups separation on high and low outcomes), and interaction effects (threats interact differently within each group).

Minimizing Threats to Validity

In order to minimize threats to validity, the researcher plans to use several strategies:

Measurement.

This researcher used the ProQOL R-IV to measure overall compassion satisfaction/fatigue and the Secondary Traumatic Stress Scale to measure the effects of particular events. These two measures are similar in that they can both be used to measure the effect (on the caregiver) of caring for people who have experienced traumatic events. There should be a relationship between the results in the two tests. The researcher also interviewed intervention site residents after death notification events and asked the interviewees for feedback on their transcript. The relationship of the tests and the triangulation of the interview and feedback should lower threats to validity.

Design.

Multiple design elements are in place to increase validity and rule out alternative explanations for outcomes. These elements include a control group, training for liaisons, human protection, repeated testing, baseline measures, and observation.

Control group.

A group of EM residents at a similar site did not receive the intervention. The ability to compare the control and experimental group should decrease threats to validity.

Training for liaisons.

The liaisons were provided with script to introduce the study and recruit residents. They received the script at least one week ahead of the study introduction so that any questions may be answered.

Human protection.

The research plan was approved by the IRB (IRB HM12265) and human protection elements were in place. The researcher collected data mainly through Inquisite which provided assurance of confidentiality for the residents. Such assurance should have encouraged residents to answer questions candidly.

Repeated testing.

Repeating the ProQOL R-IV and the STSS (if more than 1 death notification) will lessen threats to validity.

Baseline measurements.

The double pretest design includes two measures prior to the program. Consequently, if the program and comparison group are maturing at different rates you should detect this as a change from pretest 1 to pretest 2. Therefore, this design explicitly controls for selection-maturation threats. The design is also sometimes referred to as a "dry run" quasi-experimental design because the double pretests simulate what would happen in the null case.

Observations.

Whenever possible at the intervention site, the researcher observed the treatment of the patient and subsequent notification. Comparing these observations with answers on the STSS and interview questions strengthens validity by triangulating data.

Design Elements

The design for this study was based on three criteria; theory-grounded, situational, and feasibility.

Theory-grounded.

An extensive literature review showed that increasing communication and interpersonal skills related to death notification can improve residents' confidence in their skills and the skills themselves. This study took the concept one step further and examined if it reduced the occupational hazard of compassion fatigue and secondary stress syndrome.

Situational.

The need for this study was raised by Dr. Dhindsa in 2005. His experience as an emergency medicine physician gave him insight into the effects of giving death notification. This study was tailored to the level one trauma center because the workshop and assessment tools were chosen with the time and attention limitations common in an emergency department. The workshop reflects best practices in the field of communication skills training in emergency medicine.

Treatment fidelity.

Treatment fidelity is supported by evidence that the study occurred as it was planned. Some ways to provide that evidence are observations, surveys from participants, and daily logs. A key component of treatment fidelity was to document the completion of key features.

This researcher kept a detailed log for all activities. Observations of the residents were documented. Notes were written at each stage of the workshop (about 10 minute intervals) and after the workshop to ensure consistency in the teaching method. This researcher co-taught the intervention. Participants completed surveys related to the curriculum. There were follow-up reminder emails for the residents to improve survey response rate. Data were kept on a secure server to ensure data retention.

Feasibility.

The study was designed to fit the orientation and rotation schedule of the EM residents. The assessment tools were on-line with reminders sent to residents at appropriate intervals. The researcher was known and respected in the setting which encouraged participation and trust.

This study used a pretest-posttest Two group design. The researcher analyzed the effect of an educational intervention on two groups of emergency medicine residents. One group (intervention site) received the intervention and the other is the control group which did not receive the intervention. This design was chosen because random

assignment of subjects was impractical for this project. This is often the case in educational interventions.

With the help of Dr. Dhindsa and Dr. Love, the researcher identified a control population which will be going through a similar program experience (EM residency) throughout the study period, thus experiencing maturation at similar rate to those of the study population. The study sites were Level One trauma centers with a similar patient population and magnitude. Baseline equivalence was reflected in similar residency entrance requirements.

Nonequivalent Groups Design

The researcher used intact, similar groups as the treatment and control groups. This set the scene for a fair comparison of the two groups. However, this type of design is vulnerable to threats of internal validity (selection) so that any prior differences between the groups may affect the outcome of the study. This could mean that the data show that the intervention didn’t make a difference when in fact it did, or that it did make a difference when in fact it didn't.

One way to check for this threat is by examining the bivariate distribution. When this researcher analyzed these data, she looked for any data that showed an initial advantage for one group, thus showing a threat that the results may be due to this initial difference. Mean differences in pre-tests for this information were examined for selection bias. Regression to the mean was ruled out as a part of selection bias. This means the

group pretests should be similar so that any change is not caused by a group regressing upwards on the posttest.

Any pretest differences could suggest a selection-maturation threat. If the two groups had initial differences to would have suggested that they may already be maturing at different rates. Posttests would not be helpful to dismiss this threat. History (selection) could also be a threat if the groups differ due to an event. In the case of this study, the first month of residency is very different.

Population

This study is meant to be generalizable to residents in urban Level One trauma centers in the United States. As a result two such centers were chosen as study sites. The EM residents within these sites are the convenience sample.

Study Sites

Control Site.

The control site was a private not-for-profit hospital with 926 patient beds. It is a referral center for the most complex tertiary services.

The control site has a $1 billion operating budget, employs a workforce of more than 6,000 associates and has a medical staff of 1,400 private Attending physicians and employed faculty. Yearly, more than 300 medical residents and fellows train at this site's 26 fully accredited independent programs. It also maintains affiliations with several prestigious area medical schools.

It is an urban Level One trauma Center. It operates MedSTAR, one of the country's top shock-trauma and Medevac programs. In 2008, it had 17,675 MedSTAR transports, including 3,121 helicopter transports. There were 78,549 Emergency Department visits, including 2,445 trauma admissions and 864 trauma unit visits.

Intervention Site.

The intervention site, founded in 1838, is the fourth largest university affiliated institution for the health sciences in the United States. It is a teaching hospital (similar to the control site) and houses the schools of medicine, dentistry, nursing, pharmacy, basic health sciences, allied professions and the 850 bed hospitals and clinics.

The intervention site is a 780-bed hospital with approximately 7,000 employees. It employs a 600-physician-faculty group practice. It is the site for the region's only Level 1 Trauma Center in a 70 mile radius.

Sample

Control Site

Each year the control site admits eight new emergency medicine residents for a three year residency program. The current entering class was all female. One resident is Japanese, one is from the Middle East, and the rest are Caucasian. Four are 27 and 4 are 29 years old. The class of 2011 has 3 males; 5 females. All are Caucasian except one female (Ethiopian). Four residents are 27, and the rest are 28, 29, and 30 years old. The class that will graduate in 2010 include 2 males; 6 females. All are Caucasian except one female (Hispanic). Their ages are 28 (2), 29, 31 (2), 32 (2), and 34 years old.

Intervention Site

As of July 1, 2009, the incoming residency class was made up of five men and five women. Eight of these are Caucasian and two are Asian. Their ages are 26, 27 (3), 28 (2), 30 (2), 31, and 38 (2). The class of 2011 includes three men and seven women. They are all Caucasian and their ages range from 27 (2), 28, 30 (3), 32(2), 34, 36 to 37. The graduating class of 2010 has five men and three women. Two are Caucasian and six do not report their ethnicity. Their age range is 28 (2), 30, 31 (2), 34 (2), and 41.

Instrumentation

Needs Assessment

The researcher designed the Needs Assessment to gather demographic information and educational background information on the residents'. The survey gathered information on any death notification education provided in written form, in a class or within a proctoring relationship in medical school or in their residency. It also asked the resident's opinion on whether the training provided (if any) was adequate, if they are confident in their communication skills, and whether further training would be helpful. There was room on the survey for comments regarding training received and desirable educational elements for future training.

The data collected by the Needs Assessment was used to give an educational baseline for the study. Comments provided by residents are to be used in designing future curricula.

Confidence Survey

The Confidence Survey is a component of Hobgood's death notification curriculum. It was administered pre-and post-educational intervention to determine if there is a change in resident's (self-report) confidence in their communication skills. It uses a 5 point Likert scale; 1−Not at all, 2−slightly, 3−somewhat, 4−mostly, and 5−completely.

Using a small sample (n=20), Hobgood (2005) taught a workshop designed to improve death notification skills. She administered the Confidence Survey pre and post workshop. Hobgood found significant improvements in resident confidence scores at the pre-post (F=16.7, p<0.0001) and pre-retention (F-14.0, p=0.001 comparisons).

ProQOL R-IV

The ProQOL was adapted by Dr. Beth Stamm from Charles Figley's Compassion Fatigue Self Test (1995). Dr. Stamm wanted to improve the psychometrics and change the name to promote positive system change in caregivers (Stamm B. H., The Professional Quality of Life Scale: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales, 2005).

The revision was based on data from over 1000 participants from multiple studies. The aim was to retain the strongest, most theoretically salient items. Items were kept if they met both high item-to-scale criteria and were considered representative of the subscale construct. Cronbach's alpha, factor analysis, and multigroup factorial invariance were used to determine viability of each question.

Based on the most recent literature on burnout and compassion satisfaction, the ProQOL was designed with three subscales: Compassion Satisfaction, Burnout, and Compassion Fatigue. Each subscale has 10 items: 7 items from the previous CSF version and 3 new items designed to strengthen the overall theory of the subscale. The creators have not been able to test and support a composite score due to the complex relationship between the scales. The test is used to determine a score for each discrete scale. It is not meant to be a psychological diagnostic tool. It was created to give information to caregivers so they could be proactive in warding off compassion fatigue and burnout.

The researchers found that caregivers who worked with trauma were particularly prone to burnout which can lead to depression or PTSD and bad professional judgment which may contribute to patient care error or poor administration (Stamm B. H., The Professional Quality of Life Scale: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales, 2005).

Compassion Satisfaction (CS) is defined as the intrinsic pleasure derived from performing one's work well. It can include a sense of being able to make a contribution to the work setting or to the greater good. It can also denote satisfaction gained from being a good colleague. High scores on this scale indicate high levels of satisfaction related to being an effective caregiver in a work setting.

Burnout is related to a sense of hopelessness and difficulties dealing with work or performing work effectively. This has a gradual onset and usually moves from compassion fatigue to burnout. Burnout also reflects a feeling of powerlessness, as in one's efforts have no impact and make no difference. Burnout is also associated with

high workloads and/or work environments that are non-supportive. People who score high on the burnout scale are at higher risk for burnout.

Compassion Fatigue is sometime referred to Secondary Traumatic Stress and is related to Vicarious Trauma. Compassion fatigue is a product of work-related, secondary exposure to high stress events. This could include hearing repeated stories of trauma (psychotherapists) or having repeated exposure to victims of trauma (emergency room workers). Compassion Fatigue/Secondary Traumatic Stress has a rapid onset and is usually associated with a particular event. Symptoms include being afraid, problems sleeping, having images related to the event intrude on one's thoughts, and trying to avoid being reminded of the event.

Method of Scale Creation

Dr. Stamm used Figley's database of 365 cases from the original study, 940 cases from a subsequent revision, and 463 cases from the original ProQOL to determine revisions for the ProQOL R-IV. Items represented high item-to-scale criteria and were theoretically good representatives of the subscale construct. Quantitative decisions were made using Cronbach's alpha, item-to-scale analyses, common factor analysis, and multi-group factorial invariance. Given the criteria, the measure dropped from 66 to 30 items.

Psychometric Information

Scale Distributional Properties

In Stamm's validation studies of the ProQOL, distributions of scores are generally unimodal and symmetric. The Compassion Satisfaction Scale typically is skewed toward the positive side and the compassion fatigue/trauma is skewed toward the absent side (i.e. e., most people report little disruption).

Table 2

Subscale Distributional Properties of ProQOL IV-R

	M	Median	Mode	*SD*	*SE*	Skew	Kurtosis
CS	37	38	39	7.3	.34	-.88	1.77
BO	22	22	21	6.8	.31	.07	-.35
CF/STS	13	12	15	6.3	.29	.66	.43

(Adapted from Stamm, 2005, p. 7.) Used with permission.

Reliability.

The alpha reliabilities for the Stamm's scales are: Compassion Satisfaction alpha = .87, Burnout alpha = .72 and Compassion Fatigue alpha = .80. These scores are lower than the original scale, but more reliable for the same reasons mentioned above.

Validity.

Dr. Stamm used the multi-trait, multi-method mode for convergent and discriminant validity which showed that the scales measure different constructs. The

multi-trait multi-method table also showed reduced collinearity between Compassion Fatigue and Burnout. The interscale correlations are small. Compassion Satisfaction and Burnout share 5% variance and CS shares 2% variance with Compassion Fatigue/Trauma. Burnout and Compassion Fatigue/Trauma shared variance is higher, which reflects the distress that is common to both conditions (21%), but the two scales are clearly different.

Work Type Comparisons.

When the ProQOL manual was written in 2005, three groups of professionals had been tested: general health workers (clinicians through administrators); child/family workers (residential and child protective care workers); and school personnel (teachers, counselors, and administrators). The results (Table 3) indicated that teachers were satisfied with their work, family workers suffered more burn out, and health workers were less likely to report CF/STS symptoms. The ProQOL IV-R uses a six point Likert scale; 0=never, 1=rarely, 2=a few times, 3=somewhat often, 4=often, and 5=very often.

Table 3

Mean Scores on ProQOL IV-R by Work Type

	Compassion Satisfaction	Burnout	Compassion Fatigue/Secondary Traumatic Stress
General Health Workers	*M* = 35.90 *SD* = 5.45 *n* = 100	*M* = 15.50 *SD* = 6.05 *n* = 100	*M* = 11.37 *SD* = 6.73 *n* = 100
Child-Family Workers	*M* = 36.51 *SD* = 6.92 *n* = 310	*M* = 23.34 *SD* = 6.33 *n* =310	*M* = 13.5 *SD* = 6.27 *n* =310
School Personnel	*M* = 41.15 *SD* = 5.35 *n* = 41	*M* = 35.50 *SD* = 8.45 *n* = 41	*M* = 14.17 *SD* = 5.94 *n* = 41

(Stamm B. H., The Professional Quality of Life Scale: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales, 2005, p. 11.)
*Scale: Based on six point Likert scale.

Scoring.

Stamm decided to handle missing data by taking a summed score across each of the three scales on the ProQOL rather than an average score in order to reduce the potential of misinterpretation of scores. If Dr. Stamm would have used the average score with no adjustment in the denominator, it could have resulted in an abnormally low average. Weighting the average could have raised confusion about what the subject might be reporting. The summed score option was chosen based on Dr. Stamm's perspectives of distributions from the databank of over 2000 people (all versions).

When subjects are given their scores, they also receive this information on the scoring handout. This is the content given by Stamm (The Professional Quality of Life Scale: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales, 2005, pp. 12-13) to participants:

Compassion Satisfaction:

The average score is 37 (SD 7; alpha scale reliability .87). About 25% of people score higher than 42 and about 25% of people score below 33. If you are in the higher range, you probably derive a good deal of professional satisfaction from your position. If your scores are below 33, you may either find problems with your job, or there may be some other reason—for example, you might derive your satisfaction from activities other than your job.

Burnout:

The average score on the burnout scale is 22 (SD 6.0; alpha scale reliability .72). About 25% of people score above 27 and about 25% of people score below 18. If your score is below 18, this probably reflects positive feelings about your ability to be effective in your work. If you score above 22, you may wish to think about what at work makes you feel like you are not effective in your position. Your score may reflect your mood; perhaps you were having a "bad day" or are in need of some time off. If the high score persists or if it is reflective of other worries, it may be a cause for concern.

Compassion Fatigue/Secondary Trauma**:**

The average score on this scale is 13 (SD 6; alpha scale reliability .80). About 25% of people score below 8 and about 25% of people score above 17. If your score is above 17, you may want to take some time to think about what at work may be frightening to you or if there is some other reason for the elevated score. While higher scores do not mean that you have a problem, they are an indication that you may want to examine how you feel about your work and your work environment. You may wish to discuss this with your supervisor, a colleague, or a health care professional.

Self-scoring directions for Subjects

Be certain you respond to all items.

On some items the scores need to be reversed. Next to your response write the reverse of that score (i.e., 0=0, 1=5, 2=4, 3=3). Reverse the scores on these 5 items: 1, 4, 15, 17 and 29. Please note that 0 is not reversed, as its value is always null.

Mark the items for scoring:

Put an X by the 10 items that form the Compassion Satisfaction Scale: 3, 6, 12, 16, 18, 20, 22, 24, 27, and 30.

Put a check by the 10 items on the Burnout Scale: 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29.

Circle the 10 items on the Trauma/Compassion Fatigue Scale: 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28.

Add the numbers you wrote next to the items for each set of items and compare with theoretical scores.

SPSS Scoring

Reverse scores on items 1, 4, 15, 17, and 29 before computing sums. Do this by recoding into different variables. Pick the input variable and rename it (i.e., 1r, 4r). Old and new variables will be: 0=0, 1=5, 2=4, 3=3, 4=2, and 5=1. While it would seem necessary to reverse the order of the 0 value, this value is not reversed as the 0 represents the absence of the concept and applies regardless of the order of the remaining numbers.

Secondary Traumatic Stress Scale

The term Secondary Traumatic Stress is used to describe the emotional disruption that caregivers experience as a result of their work with trauma survivors. It is so prevalent that it is considered an occupational hazard of providing direct services to traumatized populations (Figley, 1995; Munroe, 1995; Pearlman L. A., 1999).

Figley defines Secondary traumatic stress as "the natural, consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person" (1995, p. 10). The symptoms are very similar to the (primary) direct victim of trauma. The difference is that the caregiver's exposure to trauma is a result of caring for a trauma victim. Secondary traumatic stress is defined as a syndrome of

symptoms nearly identical to those of posttraumatic stress disorder including symptoms of intrusion, avoidance, and arousal (Figley C. R., 1999).

The study of Secondary Traumatic Stress (STS) is still in the early stages. The few empirical studies that have been done are problematic due to the lack of measures sensitive enough to detect differences among professionals with secondary exposure. (Kassan-Adams, 1999) Most measures have not been validated or normed on people experiencing STS. Thus the Secondary Traumatic Stress Scale (STSS) was developed to fill this gap. While it still has problems differentiating between primary and secondary stress, it is a step in the right direction and the best measure available at this time. The STSS uses a 5 point Likert scale: never, rarely, occasionally, often, and very often.

Development of the STSS

Dr. Brian Bride (2004) was one of the primary creators of the STSS. The STSS is based on the constructs of intrusion, avoidance, and arousal (related to Post-Traumatic Stress Disorder) symptoms described in the Diagnostic and Statistical Manual of Mental Disorders's (American Psychiatric Association, 1994). A domain-sampling model as described by DSM (1994) was used. The initial pool of 36 Likert-type items was reviewed by five experts and they concluded that the scale had adequate content validity. Then additional items were composed to increase the item pool, resulting in a 65-item version of the STSS.

The resulting 65-item version was pilot tested with a convenience sample of 37 direct service providers for the purpose of reducing the item pool. The pilot test data were analyzed for each subscale using SPSS. Each subscale was analyzed to provide

quantitative data regarding item performance. Items were then analyzed within each subscale to ensure all items corresponded to an individual's DSM-IV symptoms. These correlations were evaluated quantitatively by examination of the corrected item-total correlation and the resulting coefficient alpha if the item were deleted. Items were qualitatively examined in terms of readability, clarity, relevance, and length. Based on the aforementioned analysis, items that performed poorly were deleted; and the remaining items were examined for content validity and congruence with the instrument's purpose. The researchers were cognizant of the small sample and were conservative in the reduction of the item pool. The reduction resulted in a 50-item instrument with a coefficient alpha of .97. The obtained coefficient alphas for the Intrusion, Avoidance, and Arousal subscales were .92, .89, and .94 respectively.

Then the fifty item version was pilot tested with 200 alumni of a school of social work located in the southeastern United States. The researchers used the pilot results to identify items for inclusion in the final scale version. The researchers ran the aforementioned analyses again and were able to reduce the item pool such that only 1 item remained for each of the 17 individual DSM-IV symptoms. The researchers then used SEM (structural equation modeling), to test the hypothesized factor structure of the retained items. When 2 items loaded on more than one factor; those items were replaced with items that better represented the hypothesized factor structure of the instrument. The resulting 17-item STSS had a coefficient alpha of .94, and the Intrusion, Avoidance, and Arousal subscales had alphas of .83, .89, and .85 respectively.

After this creation process was complete the researchers administered the study to a random sample of 600 social workers for the purpose of investigating the psychometric

properties of the STSS. They wanted information on internal consistency, the extent to which the STSS and its subscales correlate with measures of related and unrelated variables, and the extent that individual items of the STSS represent the factors of intrusion, avoidance, and arousal. The researchers also asked the social workers to complete a 23-item survey seeking information regarding demographics and professional activities.

Of the 600 study packets sent out, 294 (49.6%) completed surveys were returned. However, 7 (1.2%) surveys were excluded from the analysis due to missing data, resulting in an effective response rate of 48.4% (n = 287). Study participants had a mean age of 44.8 (SD = 10.5) and averaged 16.1 years (SD = 9.6) in social work practice. Respondents were primarily female (81.9%) and Caucasian (77.5%). The current version of the STSS uses a 5 point Likert scale: never, rarely, occasionally, often, and very often.

Reliability

Internal consistency is concerned with the homogeneity of the items comprising a scale and is an indicator of how well the individual items of a scale reflect a common, underlying construct. Strong homogeneity indicates good test reliability. An alpha level of at least .80 is sufficient and alpha values between .80 and .90 are considered very good. Means, standard deviations, and alpha levels for the STSS and its subscales were as follows: Full STSS (M = 29.49, SD = 10.76, α = .93), Intrusion (M = 8.11, SD = 3.03, α = .80), Avoidance (M = 12.49, SD = 5.00, α = .87), and Arousal (M = 8.89, SD = 3.57, α = .83).

Convergent and discriminant validity

The second research question concerns convergent and discriminant validity. It is desirable for question items to measure the construct they are designed to measure (convergent validity) and not the other constructs (discriminant validity). The researchers used the Bonferroni technique with an alpha of .05, which resulted in a per comparison alpha level of .00179 (.05/ 28). As noted in Table 2, significant correlations were found between the STSS and its subscales and each of the convergent variables, although significant correlations were not found between the STSS and its subscales and each of the discriminant variables. Thus, the researcher's interpretation of the results for the convergent and discriminant validity of the STSS and its subscales appear to be supported. They also note that correlations with the extent and frequency variables, while statistically significant, have a low magnitude. They interpret these results to mean that not all persons exposed to traumatic stressors develop related symptomatology.

Table 4

Convergent and Discriminant Validity

	Intrusion Subscale	Avoidance Subscale	Arousal Subscale	Total STSS
Convergent				
Extent (n=281)[a]	.269*	.211*	.260*	.260*
Frequency (n=283)[a]	.225*	.200*	.228*	.232*
Depression(n=284)[a]	.391*	.516*	.461*	.502*
Anxiety (n=284)[a]	.461*	.507*	.563*	.553*
Discriminant				
Age (n=280)[a]	-.098	-.090	-.073	-.093
Ethnicity (n=285)[b]	-.024	-.061	.027	-.026
Income (n=284)[c]	-.135	-.066	-.060	-.095

a. Pearson product-moment coefficient.
b. Point-biserial coefficient.
c. Spearman's rho.
*p <.00179 (two-tailed)
(Bride B. R., 2004, p. 30) Used with permission.

Validity

The researchers used a Maximum Likelihood (*ML*) estimation to create a covariance matrix. They chose ML because it is a standard method of estimating free parameters in structural equation models, performs well under a variety of less-than-optimal analytic conditions such as small sample size and excessive kurtosis, and is the widely researched estimator. Their hope was that the responses on the STSS could be explained by three factors (Intrusion, Avoidance, and Arousal).

SEM uses fit indices to estimate how well the data fit the a priori hypothesized model. Because different indices reflect different aspects of model fit, researchers typically report the values of multiple indices. They chose to report these fit indices: (a) the Goodness of Fit Index (GFI), (b) the Comparative Fit Index (CFI), (c) the Incremental Fit Index (IFI), and (d) the root mean square error of approximation (RMSEA). The GFI measures how much better the model fits as compared to no model at all. The GFI is a measure of the relative amount of observed variance and covariance accounted for by the model and is similar to R^2 in multiple regression analysis (Hoyle & Panter, 1995; Kline, 1998). The CFI compares how much better the model fits compared to a baseline model, typically the independence (null) model in which the observed variables are assumed to be uncorrelated. The IFI is similar to the CFI in that it compares how much better the model fits compared to a baseline model; however, it accounts for the complexity of the model by rewarding more parsimonious models with higher values. Finally, RMSEA accounts for the error of approximation in the population and is a measure of discrepancy per degree of freedom. Adequate model fit is represented by GFI, CFI, and IFI values greater than .90. and RMSEA values below .08. In this study the chosen fit indices were: GFI = .90, CFI = .94, IFI = .94, and RMSEA = .069.

The researchers also looked at factor loadings, *t*-values, and squared multiple correlations. They found that each STSS item loaded on its intended factor with factor loadings ranging from .58 to .79, and each factor loading is statistically significant (α = .05) with *t*-values ranging from 10.13 to 15.68.

Table 5

STSS Factor Loadings, t-values, Squared Multiple Correlations, Means, and Standard Deviations

	Intrusion	Avoidance	Arousal	t-value	R^2	M	SD
Item 2	.09			12.70	.47	1.55	.70
Item 3	.58			10.13	.33	1.30	.61
Item 6	.76			14.45	.57	1.70	.89
Item 10	.72			13.56	.52	2.21	1.06
Item 13	.66			11.98	.43	1.34	.64
Item 1		.63		11.47	.40	1.84	.91
Item 5		.71		13.39	.50	1.90	1.03
Item 7		.76		14.67	.57	1.78	.97
Item 9		.70		13.23	.49	1.91	1.04
Item 12		.71		13.51	.51	1.49	.90
Item 14		.72		51.76	.52	2.01	1.00
Item 17		.64		11.60	.40	1.55	.84
Item 4			.63	11.46	.39	1.87	.97
Item 8			.71	13.48	.50	1.52	.79
Item 11			.79	15.68	.63	1.91	.97
Item 15			.73	14.08	.54	2.02	. 98
Item 16			.69	12.93	.47	1.57	. 88

(Bride, B.R., 004, p. 31)

R^2 values inform the researcher of the extent to which the measurement model is adequately represented by the observed measures. When the squared multiple correlations (R^2) was examined, the researchers found a range of .33 to .63 for individual items, indicating that between 33% and 63% of the variance on individual items can be accounted for by the factor to which they are assigned. Factor intercorrelations scores were: Intrusion-Avoidance = .737, $p < .001$; Intrusion-Arousal = .784, $p < .001$; Avoidance- Arousal = .831, $p < .001$. These finding support the conceptualization of secondary traumatic stress as comprising three related symptom domains and the factor structure of the STSS.

Limitations of the STSS

Limitations to this study include concerns about generalizing to other helping professions. The researchers acknowledge the low response rate (48%) and the possibility that non-responders could be different from the subjects who responded. People who are experiencing STSS may have been more likely to respond because the STSS related directly to the subject or people with STSS might have declined to fill out the survey because it was distressing to them.

SEM was used to measure the congruence of the factor structure of the STSS with the three PTSD symptom clusters identified by the DSM-IV. Limitations arise because there have been no published accounts of the use of confirmatory factor analysis to evaluate the replicability of the DSM-IV PTSD symptom clusters. Alternative models might yield better data for the factor structure of the STSS.

The researchers conclude that the STSS measures symptoms closely related to Post-Traumatic Stress Disorder (PTSD) and further study needs to be done to differentiate between PTSD and STS. However, they find that the STSS gives researchers a reliable and valid tool to measure Secondary Traumatic Stress.

This researcher must also note that the small sample size is a serious limitation. This is discussed further in the next chapters.

Applying the Results of the STSS

Caregivers with secondary traumatic stress symptoms are believed to be less effective in their work and at higher risk to make poor professional judgments such as misdiagnosis, poor treatment planning, or abuse of clients than those not experiencing secondary traumatization (Rudolph, 1997). Secondary Stress can also contribute to professionals leaving the field of Caregiving. The STSS is designed to help caregivers recognize when they are at risk for STSS so that strategies may be used to ameliorate the effects of secondary traumatic stress. Possible strategies include increased training in direct services with traumatized clients, increased supervision by experienced trauma specialists, more support for trauma workers, and increased use of self-care strategies. (Pearlman L. A., 1995b)

Procedure

In the summer of 2009, Emergency Medicine residents at two sites were invited to take part in this study. The EM residents at the intervention site (n=28) were asked to

participate in a death notification skills workshop. The EM residents at the control site (*n*=24) were not.

The project was introduced at Emergency Medicine Rounds where medical liaisons read from a script summarizing the project, protocol, and consent form. The protocol was explained by a script (and/or this researcher) and EM residents were invited to participate in the study. Participants were asked to sign an informed consent form during rounds before participating. After they received and signed the consent form, they received an email thanking them for participating and directing them to the link to the initial surveys.

Liaisons received the script a week or more ahead of the study introduction in order to answer any questions they may have. If residents had questions that this researcher or the liaisons cannot answer, the initiation of the study would have been postponed until the questions can be answered satisfactorily.

EM Residents at both sites were asked to complete a series of on-line or on-paper assessments related to their work as (EM) residents and giving death notification to surviving Next of Kin (Secondary Patients). Assessments were accessed on-line using Inquisite. The initial assessment packet included the ProQOL V Scale (Professional Quality of Life: Compassion Satisfaction and Fatigue Subscales), an Educational Needs Assessment survey, and a Death Notification Skills Confidence Survey. These measures are found in the appendix. The Confidence Survey was repeated as a post test for workshop participants.

Residents (at both sites) who had a death notification event were also asked to complete a Secondary Traumatic Stress Scale (STSS). The STSS uses a 5 point Likert

scale: never, rarely, occasionally, often, and very often. They could take this as many times as they had notifications. Email reminders were sent to all residents once a week to invite them to take the STSS on-line if they had given death notification that week. Residents at the intervention site were offered a short interview to discuss their death notification experience within seven days of the patient death. Late in the study residents at the control site were offered interviews.

The first of these tests, ProQOL R-IV, was used to measure Compassion Fatigue/ Satisfaction and Burnout at the beginning and end of the study. This pre-post test was administered on paper or through Inquisite at the intervention site and at the control site (a comparable site). The EM residents at the control site did not receive the Educational Intervention (Independent Variable). The residents at both sites were invited to complete a Needs Assessment to get a baseline measure for their previous death notification education.

The residents at the intervention site were asked to complete a Confidence Survey pre- and post- workshop to measure their perceptions of their death notification skills to see if they felt their skills had improved. After administration of the ProQOL R-IV the residents at the intervention site attended a Death Notification Skills workshop. Based on this researcher's adaptation of Dr. Cheri Hobgood's (Hobgood C, April 2005), the curriculum to reflected an urban trauma patient population.

EM residents at the control site, who had a death notification event during the study, were asked to complete the Secondary Traumatic Stress Scale. EM residents at the intervention site, who had a death notification event, were also asked to complete the Secondary Traumatic Stress Scale (STSS), and invited to participate in a short interview

for the purpose of exploring their answers on the STSS, the death and subsequent notification, and getting their recommendations for changes/additions to the death notification curriculum. Once a week, an email was sent to all participants inviting them to take the STSS if they have had a patient death and subsequent notification of next of kin or participated in notification. On-line administration of the STSS took place within about one week of the death notification event as recommended by the test developers. The STSS scores of the control and experimental groups were compared. Excerpts from the interviews were reported as narrative related to the emotional impact of the death notification event on the resident. None of the EM residents at the control site chose to participate in a short interview at the end of the study. The STSS scores were analyzed using a series of *t* tests to compare scores of those residents who had death notification training and those who did not.

Whenever possible at the intervention site, this researcher observed the EM resident's treatment of the patient and subsequent notification of the Secondary Patient(s)/surviving family members. At these opportunities this researcher observed the resident's demeanor throughout patient treatment and death notification. This researcher completed the Death Notification Protocol Checklist (appendices pg.150). An observation checklist was used in the workshop to teach residents the skills to give notification to ensure we were teaching the skills we wanted to observe. Notes from death notification/patient treatment observation helped form the short interview probes. General interview questions are attached.

This researcher had a pager and she was paged for all traumas when she was on site and most traumas she was off site. She analyzed the deaths in the "green" ED

(medicine issues) and the "yellow" Trauma ED to chart (see attached) when deaths were most likely to take place. This researcher was on site much of the time when deaths were likely to occur. While on site she attended all "delta" traumas and attended as many "alpha" traumas as possible. Alpha traumas are the less serious of the traumas and the purpose of attendance was to increase trust in this researcher through her presence in the ED. See the appendices (pg. 168) for more information detailing criteria for Delta and Alpha traumas.

Curriculum

There are many teaching methods used to train physicians, but none touted as outstanding. Hobgood is the best recognized. Benenson (2003) noted that the standardized training included a 60-minute didactic presentation and participation in a 10-minute simulated death notification scenario. The didactic curriculum included: normal and abnormal grief reaction, risk factors for prolonged grief, cultural factors, impaired survivors, and how to perform a death notification.

Dr. Marc Pollack (1999) conducted a quasi-experimental design study of training doctors in death notification. He reported using the above method and found a significant improvement (p=.023) in residents who received the intervention.

Stewart, et al, studied medical students using a quasi-experimental design. Students in the treatment group (n=37) attended a two day workshop in end of life communication. There were (n=19) students in the control group. The students demonstrated an increase in ability to ask patients about prior experience in end of life

decision making and discussing probabilities in scenarios. However, the students' cumulative scores for discussions and patient preferences did not increase (2006).

There were several other workshops to teach communication related to death notification to residents (Davis W. , 1989; Roth, 2002). Davis reported a workshop with three components including role plays. However, the role plays weren't scripted so there is questionable treatment fidelity in the educational intervention. They did not test their results. Roth used a method similar to "speed dating". He set up 10 minute stations where residents rotated to standardized patients, did a short role play and received 90 seconds of feedback from observers.

Wagner, et al, conducted a four-part educational intervention with students over two years of medical school. This included activities based on videos, lecture, and role plays with standardized patients. Students reported greater understanding in their roles as physicians, increased insights into the importance of connecting with patients and requested further training in communication skills (2002).

As previously stated, there is a dearth of death notification training for physicians. The number of these training programs which assessed success is even smaller. What this author found was a large number of articles related to studies assessing communication skills without any training involved.

Data Analysis

The Independent Variables (IVs) are levels of Death Notification Education and year of residency (1, 2, and 3). The Dependent Variables (DVs) are the EM resident's (a)

level of confidence in their death notification skills, (b) level of compassion fatigue/satisfaction and (c) level of secondary traumatic stress.

ANCOVA was used with the data generated by the ProQOL IV. Multiple *t* tests were used to analyze residents' Secondary Stress, confidence in death notification skills, year in residency, and amount of death notification education. Descriptive statistics are used to report demographic information.

Multiple *t* tests were performed to compare the levels of previous death notification education and the residents' pre-post workshop confidence levels.

The surveys were implemented on-line through the use of Inquisite software available through Virginia Commonwealth University. However, paper surveys were used to get initial data from intervention site residents who attended the workshop. Inquisite is an automated survey software package. On-line data was identified by an ID number, not names. All potentially identifying information was kept in password-protected files. Only information contained in the final dissertation itself was kept. Access to all data was limited to study personnel. A data and safety monitoring plan is established.

Potentially identifiable information about the subjects consisted of surveys, interview notes and recordings, audiotapes of interviews, and data abstracted from the assessments. All collected interview data were kept in a locked cabinet in a locked room.

The audio tapes were deleted upon final approval of this dissertation study. Other records (transcripts and interview notes) will be kept in a locked file cabinet in a locked room for a maximum of 5 years after the study ends and will be destroyed at that time.

On-line administration of the STSS generally took place within about one week of the death notification event as recommended by the test developers. The STSS scores of the control and experimental groups were compared. Excerpts from the interviews were reported as narrative related to the emotional impact of the death notification event on the resident. EM residents at the control site did not receive a short interview.

Limitations

This study limitation was designed to teach residents communication skills for an urban, Level One trauma center. The curriculum was adapted from Dr. Hobgood's GRIEV_ING curriculum to fit this kind of setting which sees a great number of traumas. Therefore, this study was limited to emergency medicine residents serving in such a setting. This study also focused on educating physicians-in-training (residents). It might need to be adapted to suit physicians who are further into their career, due to the emotional distance they may have developed as a coping mechanism. It was also not designed for a medical school student population who may not have had much direct patient contact. Further adaptations and a longer educational intervention would be better for that population.

Furthermore, this was a small convenience sample. Possible violations of internal validity related to the small sample size should be considered while reviewing the results.

Chapter Four

Findings

The study began in July, 2009 and the final surveys were completed in early March, 2010. The researcher spent approximately 600 hours in the intervention site Emergency Department (intervention site ED) observing patient treatment and death notifications. Forty Emergency Medicine residents participated in this study. Twenty five of the participants were residents at the intervention site and fifteen of the participants were residents at control site. Three participants from the intervention site dropped out of the study after the educational intervention and initial surveys.

All participants were asked to complete the confidence survey(s), ProQOL, and STSS (per death notification). Four intervention site residents did not complete the ProQOL surveys, but finished the STSS survey(s) after participating in a death notification. In all, nineteen intervention site residents and all of the control site residents (*n*=15) completed all appropriate surveys. Twenty two residents took the STSS survey (control site *n*= 16, intervention site *n*=6). Twelve residents (control site *n*=8, intervention site *n*=4) had more than one death notification and took the STSS more than once.

Twenty seven of the total residents at both sites (intervention site *n*=14, control site *n*=13) participated in death notifications. There were a total of 43 adult deaths in the intervention site ED. Of these notifications, intervention site emergency medicine residents gave twenty seven, Attending physicians gave eleven, non-study residents gave two and local police gave three.

Descriptive statistics are given for the groups based on intervention (see Table 5) and by residency site (see Table 6). Based on statistics by intervention, the control group

had a higher number of females which was probably because entire first year residency group at the control site is female. Both groups were largely “white”. The intervention group had participants evenly spread out by residency year. The control group had half of their participants in their second year of residency.

By residency site, the groups had more female than male residents. There were twenty five residents participating at the intervention site while only fifteen participated at the control site. Each year of residency training was represented by residents at the control and intervention sites. At both sites there were more second year residents who participated than first or third year residents. Keep in mind there were some residents who were working at the intervention site, but were part of the control group because they didn’t participate in the educational intervention.

Table 6

Demographic Profile of All Participants

		intervention	control	Total
Gender	female	9	15	24
	male	10	6	16
	Total	19	21	40
Race	Latino	0	1	1
	Asian	1	1	2
	Indigenous	1	0	1
	White	16	18	34
	Other	0	1	1
	Total	18	21	39
Residency site	Control site	0	15	15
	Intervention site	19	6	25
	Total	19	21	40
Year residency	First Year	8	4	12
	Second Year	6	11	17
	Third Year	5	6	11
	Total	19	21	40

Table 7

Demographic Profile of All Participants by Residency Site

		Control	Intervention	Total
Gender	female	10	14	24
	male	5	11	16
	Total	15	25	40
Race	Latino	1	0	1
	Asian	1	1	2
	Indigenous	0	1	1
	White	12	22	34
	Other	1	0	1
	Total	15	24	39
Intervention	Intervention	0	19	19
	Control	15	6	21
	Total	15	25	40
Year residency	First Year	4	8	12
	Second Year	7	10	17
	Third Year	4	7	11
	Total	15	25	40

Confidence Survey

The confidence survey measured the residents' confidence in their ability to give death notification in a compassionate manner. It uses a 5 point Likert scale; 1−not at all, 2−slightly, 3−somewhat, 4−mostly, and 5−completely.

Pre-intervention scores were gathered for both intervention and control subjects (N = 34). The residents who received the intervention took the survey on paper before the intervention and again, immediately after the intervention.

The t statistic was used to determine the level of significance in the difference of the confidence means before the educational intervention. Nineteen residents participated in the educational intervention and completed the confidence survey. Fifteen residents did not participate in the educational intervention, but completed the confidence survey within the same time period as the participating residents. The t test was not significant (t = 1.04, p = .308), which indicated that residents may have begun this study with similar levels of confidence in their ability to give death notification compassionately.

Table 8

Preconfidence Survey Descriptive Statistics

	Group	*N*	*M*	*SD*
PreConfidence	intervention	19	51.11	9.66
	no intervention	15	47.47	10.79

*Scale: Based on 5 point Likert Scale.

Pre and Post Intervention Confidence Scores

Paired Samples *t* tests calculated for differences in confidence measured the confidence means before and immediately after the educational intervention. Eighteen residents participated in the educational intervention and completed the pre and post confidence survey.

Residents who participated in the death notification education intervention may have had a significant rise in feelings of confidence in their skills, $t(18) = -3.45$, $p < .01$. The intervention group members ($M = 51.11$, $SE = 2.34$) reported higher confidence scores after the intervention ($M = 59.28$, $SE = 1.61$). Using a Cohen's d calculation, the effect size is very large (8.41). Given the small sample and possible violations of internal validity due to sample size, this can only be viewed as a tentative indication that the training may be effective.

Table 9

Paired t test for Pre & Post Confidence Intervention Group

		N	*M*	*SI*	Effect Size
Pair 1	PreConfidence	18	51.11	9.93	4.99
	PostConfidence	18	59.28	6.84	8.41

Scale: Based on 5 point Likert scale.

Compassion Satisfaction

The ProQOL IV-R uses a six point Likert scale; 0=never, 1=rarely, 2=a few times, 3=somewhat often, 4 = often, and 5=very often. Kolmogorov-Smirnov (p = 20) and Shapiro-Wilk (p = .06) statistics for the Compassion Satisfaction subscale were not significant, which meant that data were distributed normally. Cronbach's alpha for the Compassion Satisfaction subscale is .88, which indicates high reliability of the questions relating to the concept we are trying to measure.

Cronbach's alpha in the column labeled "if item deleted" are above .8, which indicates that all questions positively contribute to the overall reliability. Corrected Item-Total Correlation column is .54 or higher, which indicates fairly good internal consistency.

Table 10

Descriptive Statistics for ProQOL IV-R Compassion Satisfaction Subscale

ProQOL IV-R	Intervention	*N*	*M*	*SD*
Satisfaction	intervention	11	17.45	3.64
	no intervention	18	20.83	4.22

*Scale: Based on 6 point Likert scale.

ANCOVA for Compassion Satisfaction

Analysis of Covariance allows us to adjust for differences in the post test scores in order to determine if there is a significant difference between the posttest scores for each

group. In order to run an ANCOVA, a Levene's Test of Equality of Error Variances was run. This test was not significant (p = .10), so ANCOVA could proceed. The main effect of the intervention after removing the effects of the covariate is not significant, F (1, 26) = 4.02, p =.06. There was no significant difference in potential for compassion satisfaction between the residents who were in the intervention group and those who were in the control group.

Table 11

ANCOVA for Compassion Satisfaction Subscale

			Pretest			Posttest			Adjusted Posttest
Subscale	Group	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*
Compassion Satisfaction	Intervention	13	16.69	6.22	12	33.58	7.12	11	34.00
	Control	20	14.55	5.15	18	35.50	6.07	18	35.5

*Scale: Based on 6 point Likert scale.

The Compassion Satisfaction scale measures the potential for compassion satisfaction. In Stamm's work validating this test, the average score was 37. In his data the 75th percentile began at 42 and the 25th percentile was below 33. The standard deviation (SD) was 7 and the Cronbach's alpha score for test reliability was .87.

Burnout

The ProQOL IV-R uses a six point Likert scale; 0=never, 1=rarely, 2=a few times, 3=somewhat often, 4=often, and 5=very often. Before any analysis of data was performed, the appropriate Burnout subscale data were reverse coded. In computing the Cronbach's alpha, SPSS removed one question on sleep loss because it had zero variance. After this removal, the Cronbach's alpha of .63 indicates moderate reliability of the questions relating to the concept we are trying to measure.

Cronbach's alphas in column labeled "if item deleted" are above .56, which indicates that all questions moderately contribute to the overall reliability. Corrected Item-Total Correlation column is generally low which indicates issues with internal consistency. Two questions are problematic with one measurement .24 and another -.04. Both of these questions were reverse phrased and could contribute to a higher alpha if removed.

Table 12

Descriptive Statistics for ProQOL IV-R Burnout Subscale

ProQOL IV-R	Intervention	*N*	*Mean*	*SD*
Burnout	intervention	11	6.54	5.28
	no intervention	18	11.39	7.51

*Scale: Based on 6 point Likert scale.

The ANCOVA for the Burnout subscale indicated that the main effect of the intervention after removing the effects of the covariate is not significant, F (1, 26) = 3.16, p =.09, but might be significant in a larger sample.

Table 13

ANCOVA for Burnout Subscale

			Pretest			Posttest			Adjusted Posttest
Subscale	Group	*N*	*M*	SD	*N*	*M*	*SD*	*N*	*M*
Burnout	Intervention	13	14.77	3.98	12	21.58	6.73	11	21.27
	Control	20	14.85	3.66	18	25.33	7.72	18	25.33

*Scale: Based on 6 point Likert scale.

The Burnout scale measures a person's risk for burnout. Stamm's average score for burnout was 22. The 75th percentile began at 27 and the 25th percentile was below 18. The standard deviation was 6 and the Cronbach's alpha score was .72.

Compassion Fatigue

In computing the Cronbach's alpha, SPSS removed four questions (9, 14, 23, 25) on sleep loss because they had zero variance. After this removal, Cronbach's alpha score

is .09, which indicates poor reliability of the questions relating to the concept of Compassion Fatigue.

Cronbach's alphas in column labeled "if item deleted" range from -.38 to .36, which indicates that all questions contribute poorly to the overall reliability. Corrected Item-Total Correlation column is generally low which indicates issues with internal consistency. Only one question scored somewhat well at .41 (Q11).

This researcher returned to the data to check for data recording issues and found none. The ProQOL's creator has been contacted to gain any insight into this poor Cronbach's alpha. As of the date of this writing, there has been no response.

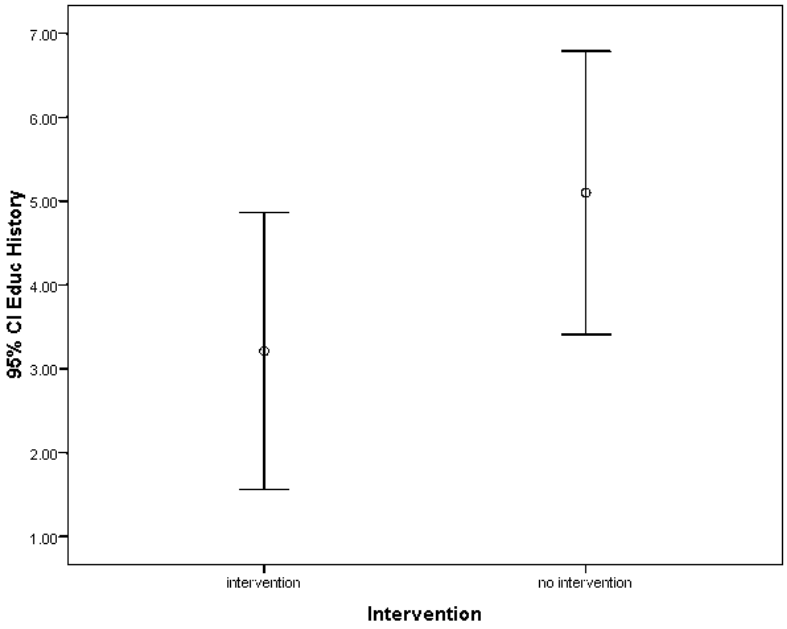
This Cronbach's alpha score is so low that this subscale must be disregarded in this study. The poor reliability of this test may be due to a difference in this study's population as opposed to previous ProQOL study populations. The IRB's request for removal of one question could have contributed. This subscale will no longer be part of the reported data. Development of a test for emergency medicine physicians might fill this important gap in the literature.

Educational History

An independent samples *t* test was conducted to compare the residents' death notification educational history by intervention and control group. There was equality of variance and the t statistic ($p = .10$) was not significant. Given the small sample size this may indicate that there was no significant difference in the educational history of the participants at the beginning of the study. Exploratory data (error chart bar) showed the

control group may have begun with a greater amount of death notification education than the intervention group.

Figure 1: Intervention by Educational History



Secondary Traumatic Stress Scale

Secondary Traumatic Stress Scale t test

Six residents who participated in the educational intervention completed the STSS. Sixteen residents who did not participate in the educational intervention completed the STSS. The STSS uses a 5 point Likert scale: never, rarely, occasionally, often, and very often.

Table 14

Independent Samples t Test for overall STSS

	Intervention	*N*	*M*	*SD*
STSS mean	intervention	6	22.50	4.93
	no intervention	16	31.82	11.36

*Scale: Based on 5 point Likert Scale.

Independent samples *t* tests were calculated on the overall STSS and each subscale. Levene's test was significant for the overall STSS ($p < .04$) which indicated a violation of homogeneity of variance. Because of this violation, this researcher used the *t* statistic for equal variances not assumed. On average, residents who did not participate in the death notification intervention ($M = 31.82$, $SE = 11.36$) reported greater Secondary Traumatic Stress symptoms than residents who participated ($M = 22.50$, $SE = 4.93$). This difference is significant $t(19) = -2.68$, $p < .01$. Using a Cohen's *d* calculation, the effect size was -0.92. However, given the small sample and possible violations of internal validity due to that, both the *t* statistic and the effect size should not be considered an indication of significance. It is possible that education had a positive effect on lowering Secondary Traumatic Stress Symptoms in our sample. However, further study with a larger sample would be needed to indicate a causal relationship.

Secondary Traumatic Stress Subscales

STSS has three subscales; Intrusion, Avoidance, and Arousal. STSS is designed to measure the frequency of these symptoms associated with secondary traumatic stress syndrome. The potential range of scores on the STSS range from 17 (no symptoms) to 74, which is the highest possible score. The questions were designed to be consistent with the DSM-IV criteria for Posttraumatic Stress Disorder which mirrors STSS symptomatically.

Of the subscales, only Avoidance is statistically significant for low Secondary Traumatic Stress symptoms. Arousal could be significant with a larger sample.

Intrusion Subscale.

All questions were included in the SPSS Cronbach's alpha total score of .75. This indicates good reliability of questions measuring responses to Intrusion. Cronbach's alphas in column labeled "if item deleted" are above .75, which indicates that all questions positively contribute to the overall reliability. Corrected Item-Total Correlation column is .65 or higher, which indicates fairly good internal consistency. The sole exception is one question (Q13), which measures .31 and is still acceptable.

Table 15

Descriptive Statistics for STSS Intrusion Subscale

	Intervention	*N*	*M*	*SD*
Intrusion	intervention	9	7.44	2.18
	non-intervention	37	8.90	3.56

*Scale: Based on 5 point Likert Scale.
Note. *N* reflects number of STSS surveys completed. Some residents took this survey more than once.

Avoidance Subscale.

All questions were included in the SPSS Cronbach's alpha total score of .87. This indicates high reliability of questions measuring responses to Intrusion. Cronbach's alphas in column labeled "if item deleted" are above .82, which indicates that all questions positively contribute to the overall reliability. Corrected Item-Total Correlation column is .60 or higher, which indicates fairly good internal consistency, except for one question (Q17), which measures .45 and is still acceptable.

Table 16

Descriptive Statistics for STSS Avoidance Subscale

	Intervention	*N*	*Mean*	*SD*
Avoidance	intervention	9	8.89	2.31
	non-intervention	37	11.76	4.42

*Scale: Based on 5 point Likert Scale.
Note. *N* reflects number of STSS surveys completed. Some residents took this survey more than once.

Arousal Subscale.

All questions were included in the SPSS Cronbach's alpha total score of 0.70. This indicates high reliability of questions measuring responses to Intrusion. Cronbach's alphas in column labeled "if item deleted" are above 0.80, which indicates that all questions positively contribute to the overall reliability. Corrected Item-Total Correlation column is .61 or higher, which indicates fairly good internal consistency, except for one question (Q4), which measures .23, and is still below the acceptable range. The Levene's test for equal variances was not significant so it is assumed that the variances are equal.

Table 17

Descriptive Statistics for STSS Arousal Subscale

	Intervention	*N*	*Mean*	*SD*
Arousal	intervention	9	6.78	2.63
	non-intervention	37	9.19	3.49

*Scale: Based on 5 point Likert scale.
Note. N reflects number of STSS surveys completed. Some residents took this survey more than once.

Preliminary Discussion of Results

Small convenience samples were used for this study. The samples used in this study may have been comparable. Data may indicate that the residents began with similar levels of confidence in their ability to give death notification in a compassionate manner to the deceased's next of kin. The residents who had the intervention may have had significantly higher levels of confidence after the educational intervention. Exploratory analysis suggests that the control group may have had a larger amount of death notification education at the onset of the study.

Residents in the intervention and control group had no significant differences in their potential for compassion satisfaction. Residents who had the educational intervention reported less Secondary Traumatic Stress symptoms than their non-intervention counterparts. The intervention group may have less risk for burnout (although it would only be significant at $p < 0.10$).

The overall conclusion is that there is some evidence for a positive effect of the intervention. However, due to the small sample size and possible violations of internal validity, the conclusion is tentative and more research is needed to evaluate the training.

Chapter 5

Discussion, Conclusions, and Recommendations

This chapter focuses on the process of conducting this study as well as meaning of the data. Statistical results and limitations lead off the chapter. Challenges in conducting the study follow. The discussion section reviews the threats to validity in this quasi-experimental design study. It also includes excerpts from interviews with the residents following death notifications. Short sections on conclusions, recommendations and final thoughts close the chapter and the dissertation.

Statistical Results

Forty Emergency Medicine residents participated in this study. Twenty five of the participants were residents at the intervention site and fifteen of the participants were residents at the control site. Three participants from the intervention site dropped out of the study after the educational intervention and initial surveys.

All participants were asked to complete the confidence survey(s), ProQOL, and STSS (per death notification). Four intervention site residents did not complete the post ProQOL surveys, but finished the STSS survey(s) after participating in a death notification. In all, nineteen intervention site residents and all of the control site residents (*n*=15) completed all appropriate surveys. Twenty two residents took the STSS survey (control site *n*= 6, intervention site *n*=16). Twelve residents (control site *n*=8, intervention site *n*=4) had more than one death notification and took the STSS more than once. The variability of completion of the survey's results in a very small sample. This creates problems with internal validity which could be addressed with a larger sample size.

. The descriptive statistics for the control and interventions groups showed the control group had a higher number of females. Both groups were largely "white". The intervention group had participants evenly spread out by residency year, but the control group had half of their participants in their second year of residency.

Educational history (needs assessment) comparisons were calculated using a *t* test. The t statistic was not significant. However, the error bar showed the control group may have begun the study with slightly more education on this topic. The *t* statistic was not significant ($t = 1.04$, $p = .308$) for differences in confidence levels when residents began this study. These statistical analyses showed that the groups may have begun the study as similar samples.

Paired Samples *t* tests measured differences in confidence before and immediately after the educational intervention for the intervention group. Residents who participated in the death notification education intervention had a significant rise in feelings of confidence in their communication skills, $t(18) = -3.45$, $p < .01$. The intervention group members ($M = 51.11$, $SE = 2.34$) reported higher confidence scores after the intervention ($M = 59.28$, $SE = 1.61$). . This could be a tentative indication that the educational intervention may be effective in increasing confidence in EM residents. However, more study is needed to explore this possibility.

On the compassion satisfaction subscale, ANCOVA was used to calculate the main effect of the intervention. After removing the effects of the covariate, the ANCOVA statistic is not significant, $F(1, 26) = 4.02$, $p = .06$. This suggests that residents who were in the intervention group did not have a greater potential for compassion satisfaction than those who were in the control group. It is possible that with larger study residents who

had an educational intervention like the one in this study could have lower potential for compassion satisfaction. This question would benefit by further study with a larger sample.

ANCOVA for the Burnout subscale indicated that the main effect of the intervention after removing the effects of the covariate is not significant, $F(1, 26) = 3.16$, $p = .09$, but might be significant in a larger sample. This indicates that the educational intervention was not significant for reducing burnout with this small sample, but should be studied with a larger sample.

The compassion fatigue subscale was disregarded after Cronbach's alpha showed very low scores which indicated that the subscale was unreliable. This could indicate that the emergency medicine residents could be dissimilar from populations that were used to validate this subscale. This researcher believes that further study should be done to develop a compassion fatigue survey or an entire ProQOL like scale for this population.

The STSS was only completed by those residents at either site who performed or participated in death notifications. It was completed multiple times by those residents who had multiple death notifications. On average, residents who did not participate in the death notification intervention ($M = 31.82$, $SE = 11.36$) reported greater Secondary Traumatic Stress symptoms than residents who participated ($M = 22.50$, $SE = 4.93$). This difference is significant $t(19) = -2.68$, $p < .01$. This is the smallest sample size in the study. This researcher suggests the only conclusion to draw from this result is the need for further study with a large sample. If a causal relationship could be found between education and lower Secondary Traumatic Stress Symptoms, it could be of great benefit to emergency medicine residents.

All in all, the analysis of data in this study suggests tentative indication that this educational intervention may be effective. Further study is needed. .

Limitations

The small sample size is a limiting factor and impacts this study negatively. It is important to consider that the sensitivity and reliability of this study may have been impacted by the small sample size. This could mean the sample was too small to provide sufficient sensitivity to detect meaningful changes even if they had occurred. Because of the sample size, the results might be different if the study were conducted with a different group of emergency medicine residents. All in all, small sample size can lead to inappropriate conclusions about the effectiveness of this intervention. A larger sample would be likely to provide more meaningful and statistically significant differences in scores if a difference occurs. In view of the seriousness of this limitation, the best this study can provide is a tentative indication that this training may be effective. More research is needed.

This study was designed specifically to train Emergency Medicine residents in performing death notification at urban, Level One Trauma centers and to assess if that training reduced their stress levels (compassion related and STSS related). These results may not be generalizable to populations other than emergency medicine residents and sites outside urban Level One Trauma centers.

The ProQOL IV-R may not be the best measure to use with emergency medicine residents because of the low Cronbach's alpha scores on the compassion fatigue subscale. However, the other subscales, the confidence survey and the STSS seemed to perform

acceptably with this population. This area of research would benefit from the creation of more measures for this population.

Challenges

There were several unforeseen challenges that arose as the study unfolded. These included a smaller than expected number of emergency medicine residents who chose to participant in the study, low mortality numbers in the ED, a university-wide email system change which did not allow email address transfer to the new system, a higher than expected number of death notifications done by non-residents and problems with identifying zip codes (which were used in the coding process for analysis).

Early in the study, this researcher visited the control site and was given the opportunity to invite questions about the study in hopes that more emergency medicine residents would decide to participate. Several residents said they wanted to participate and gave this researcher their new email addresses. These residents did join. However, the study was still hampered by a small sample size.

After realizing that the low ED mortality was not an anomaly, this researcher, with the help of the Clinical Coordinator, began checking mortality statistics weekly. It was found that the hospital does not collect data on people who actually die in the ED. They collect data on people who arrive through the ED and die somewhere in the hospital (ED or other unit). This accounts for the incorrect numbers this researcher was given at the beginning of the study. There are other reasons for the low mortality numbers during the study. Traffic deaths in 2009 were down in Virginia from 821 to 750 which could contribute to the lower mortality rate. It is this researcher's perception that patients who were very critically ill or injured were taken to surgery, etc., (out of the ED) faster than

when she was a chaplain resident. In this case, if the patient died, it was likely in the operating room or on an intensive care unit. There are also more patients surviving due to new medical innovations.

The change in email system presented problems in re-establishing an email list of participants in order to send out survey reminders. Several residents at the control site complained that they had missed receiving some emails and wanted to be sure they were included on the mailing list. This request took place early in the study when this researcher visited the control site in order to answer any study questions that residents might have. It took a couple weeks to ensure that everyone was on the list and the email addresses were correct. In that time, some data may have been missed. There were also a number of residents who entered their program with one email and changed it within weeks. Some data may have been missed while getting these new addresses.

The number of non-resident death notifications was unanticipated. One Attending physician refused to allow any first year resident to give death notification. Others wanted to do it themselves or with the resident. One well-intentioned Attending wanted the resident to give notification but could not seem to stop himself when he (and the resident) saw the family. There are ED policies clarifying who is responsible for doing death notification; when the police do notification and when it is the ED staffs' responsibility. There were one or two times when this line was crossed and the police did the notification. But there were more than that number of times when the police were invaluable at locating family members and directing them to the hospital. All these factors led to residents giving fewer notifications than possible.

By far, the biggest challenge was making sure that the surveys matched the person who took them. Participants were instructed to identify themselves by initials and zip codes. These zip codes could be their own or a family member's (the suggestion was a parent). As the study progressed, this researcher discovered zip codes being used that didn't match the participants' original identifiers. To solve this issue, questions were added to the weekly email asking participants to inform this researcher of zip codes they may have used. One dissertation committee member raised the concern that this might be an IRB violation and asked that the IRB liaison be consulted. This researcher stopped requesting zip code clarification until she could meet with the IRB representative. The IRB liaison reviewed the situation and said there was no violation because there was no promise of anonymity to the participants, just confidentiality. She also pointed out that they were already being contacted weekly as part of the research protocol. This information was relayed to the dissertation member and Dr. McMillan. With Dr. McMillan's permission, this researcher resumed asking for clarification of zip codes. Shortly thereafter, the zip code issue was resolved. As one resident mentioned in his after notification interview, "I've moved three times already this (residency) year. I could have used any of those zip codes."

A slight change in protocol took place when Dr. Dhindsa, Dr. Reid, and this researcher were configuring the logistics for the intervention site training sessions. We decided that in order to get the highest number of participants it would be best to ask them to sign the consent and do the initial surveys in paper form before the workshop started. Dr. McMillan and the IRB liaison did not think this necessitated a change in IRB forms. All other surveys took place on line as planned.

Discussion

This researcher chose this study because of her experience as a chaplain resident in a Level One trauma center. She has personal experience with receiving death notification (her mother) and can relate to the fragility of life through her work as a chaplain. There were many times during this researcher's residency when, while standing at the end of a gurney watching the trauma team (doctors, nurses, etc.) work on a patient, the thought arose, "There, but for the grace of God, go I (or any loved one of mine)." Once, when the trauma pager notified this researcher that a trauma was in route, her arrival in the Trauma room coincided with an update on the demographics of the patient (23 year old female, motor vehicle crash, 2 foot intrusion into the car, blood pressure 60 over 40, pulse thready, etc.). This researcher's feelings of invulnerability fell away when the gurney came in with a young woman who looked like her daughter. Having been on both sides of a notification, this researcher wants to contribute to making death notification less traumatic for all involved.

This was a multifaceted study set in a complex organization, requiring the cooperation and support of many people, including staff throughout the hierarchy of the ED. It depended on busy medical residents to take multiple surveys and the emergency department to allow this researcher access into some of its most intimate moments. This researcher began with the idea that education in death notification skills would produce a feeling of competence in the intervention group and this would result in lower stress levels (of various kinds) in physicians in training.

The samples used in this study may be comparable. Statistical tests showed some differences in gender, race, or residency year when compared with intervention/control

grouping or by residency site. There were more men at the intervention site. All the residents reported that they began the study with similar feelings of competence/confidence in their ability to deliver compassionate death notification to family members. The control group seemed to have begun the study with slightly more education than their intervention counterparts. The data tentatively infer that the intervention may have raised levels of confidence in the intervention group, and decreased their Secondary Traumatic Stress symptoms. However, the data did not support the idea that the intervention increased the potential satisfaction compassion or decreased burnout significantly.

The tentative indication that the training may be effective was supported by the body of literature on this topic. Iserson (p. 264) states that delivering death notification is one of the most stressful parts of a physician's practice because of the physician's (1) lack of training and experience, (2) fear of being blamed, (3) lack of knowledge about how to cope with survivors' emotions, (4) fear of expressing their own emotions, (5) fear of not knowing the "right" answers, and (6) fear of their own death. The implicit message is that physicians' stress would be reduced if these issues were addressed. This study/training focused on addressing all Iserson's concerns but (6) fear of their own death. However, Iserson's concern was not neglected. The interviews gave intervention site residents an opportunity to talk about their fear of death. On this issue, this researcher found that residents were more concerned with patient deaths' acting as reminders of someone in their own life who will die someday or who has died.

For example, a third year resident had a patient who died of cardiac failure while under his care for several hours. The resident said,

> I remember the way he looked, I remember the way he described his symptoms, and I remember thinking the whole time he was there, "This guy is going to go downhill fast". But we had the appropriate people involved. He was put on the portable monitor to go to the cardiac ICU when he coded and he was in the process of being transported out of the ER. The CICU (Cardiac Intensive Care Unit doctors) were at the bed within a few minutes and we still couldn't save him…
>
> It's always an emotionally charged event to some degree … more so (in this case) because I knew he was very ill, but I did not expect him to die in my emergency department. Also from a personal level, my father has similar health problems as this gentleman and the relationship that his daughter had with him, how she described him and his approach/perspective he had towards health care sort of hit home and reminded me of my father. So I think it was more emotionally charged than it could have been.

When this resident exited the room after notifying the patient's adult daughter, he broke into tears and went into the bathroom for privacy. This researcher waited until he emerged a few minutes later, still in tears. We stepped into a room and he told me about his father. He had just returned from a visit where he investigated moving back to his hometown to practice medicine. Ultimately, he had decided to stay in Virginia because of his wife and children's needs. Seeing this patient's daughter and their close relationship reminded him of the consequences of his choice. He would not be able to watch over his father as much as this patient's daughter did. He felt he was abdicating his

responsibilities as a son and as a physician. His reasoning was that he had to "do what's best for my own family", but that didn't alleviate his feelings of anticipatory grief and guilt.

Stamm (Measuring Compassion Satisfaction as Well as Compassion Fatigue: Developmental History of Compassion Fatigue and Satisfaction Test, 2002) created the ProQOL measure to heighten caregivers' self-awareness of the personal toll of caregiving. The hope was that caregivers could self-monitor and bring themselves back from the brink of burnout. In many caregiving professions/roles there is support for self-care. There is respite care for the caregivers of people who are ill and Critical Incident Debriefing for hospital staff involved with unusual negative events, etc. Yet, this researcher is unaware of a systematic approach to supporting self-awareness in physicians anywhere in the literature or in organizational policy. This educational intervention was a breakthrough in pointing out possible mentors in the area of self-care (Dr. Dhindsa, Dr. Love, and Dr. Reid).

Compassion fatigue can progress to burnout if ignored. Burnout can lead to depression and bad professional judgment which may contribute to patient care error or poor (patient care) administration (Stamm B. H., The Professional Quality of Life Scale: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales, 2005). One of the symptoms of burnout is a sense of numbness. This "numbness" as one resident put it, is of concern to some physicians in training. The residents who completed several STSS surveys were able to talk about compartmentalizing their self-awareness and alluded to their distress about becoming numb to patients/families. One resident began her interview by saying death notification doesn't bother her much anymore and

jokingly added, “Don’t tell my mother!” Late in the study, another resident who had been kicked in the chest by a NOK at the notification gave her STSS for that notification a very low score (few STSS symptoms). In the interview about the notification she made these comments; “One family member used my chest to kick off of (in order) to throw herself on floor. Next time I’ll be ready to move, not sit close. The other family member picked me to hug. I’m not a big hugger. I did some (death notifications) as intern … don’t like doing them, but... It is what it is. (I) did all could do, do not know why the patient died.” When asked how she managed her feelings, she said, “I drank more Mountain Dew and went back to work. It’s more stressful to do the paperwork. Does that make me a cold person?”

In the Jackson, et al. (2005) study, the researchers found that emotionally powerful patient deaths could change a physician’s bedside manner. This point was brought home to this researcher early in the study. A patient had been brought to the ED in full cardiac arrest. An EMS worker was on top of the patient (who was on the gurney) doing chest compressions as they rolled the patient to the “arrest” room. The patient put on the autopulse machine. This machine has a chest band that does chest compressions on the patient. It makes a particular noise; a low squeak as it compresses followed by silence, then another squeaky compression (a little like the “hee-haw” of a donkey). The third year resident (who had done over twenty notifications prior to the study) was waiting for other staff to do certain tasks before she could do hers and began dancing to the rhythm of the autopulse. Her notification of the family was similarly cold and distant. She gave the notification quickly, but without any emotionally supportive messages (i.e.; he didn’t suffer) other than saying she was sorry for their loss (which she kept repeating).

There was no emotion, no empathy, in her voice when she made that statement. Later in our interview, she implied that death notification was just another task that needed to be done in her workday. She said, "This is what I signed up for." In contrast, this researcher observed her with her colleagues where she was engaging, humorous, and lively. She seemed to shut herself away when it came to dealing with patients.

One resident discussed her second death notification experience; "A man (patient) was found on the floor by his family. They called EMS and (the patient) was brought in. He had already passed away and we pronounced. This was a medical death as opposed to trauma…. (It was) very upsetting. I think about how I would feel if I was getting that information. It was hard because I want to give (the family) a reason why (the patient died) and often times we don't know reason why. I missed the (intervention) education session (due to working the night before). I was stressed out because I wanted to do the best thing for the family. I wanted to say it in the best way for the family, but I stuttered around at the beginning." When this researcher asked how this would impact future patient care or death notifications, she said, "I find it makes me want to stay a little further from patient. I don't want to cry or to get upset."

Another resident who did her first death notification said,

> It was intimidating to bring news to family cause don't want to break their heart. I was sick to my stomach. The death was unexpected. A mother (patient's mother) was eating dinner with her daughter and arrested (heart stopped). It was awful. She (daughter) took it okay. The Attending was with me and we did it quickly, straightforward. I talked to the lady, who didn't hate me for it.

> The second death was a 39 year old man. His wife is an ICU nurse and woke to his gasping. The wife did CPR and tried to save him. When I told her (the patient was dead), she collapsed. I walked out and cried. I would rate it up with the most emotionally powerful events of my life. I always (identify with the patient/family. I think) What if it was my mom or husband? It's scary because don't want to think about that happening. I don't take things for granted.
>
> I'm trying (to find a way) to pull back and disassociate… yet still not be a robot. It's easier for us (physicians) if they are a stoic family and don't get outwardly upset. It's helpful that you do the education, especially to do it at the second year of residency.

Most of the residents interviewed for this study mentioned how helpful the educational intervention has been for them. Many added that the role plays weren't "real" enough and in order to be more effective they needed to be more "real". Several residents stressed timing of the training and said, "The earlier the better. Third year is too late."

If this researcher had to pick one word to describe the emotional responses she observed in residents as their patients died and they gave notification, it would be "anguish."

Validity

Shadish, et al (2002, p. 36) use a theory of validity that is both pragmatic and scientific. They propose ruling out alternative explanations using empirical evidence and abstract inferences. They define threats to validity as "specific reasons why we can be partly or completely wrong when we make an inference about covariance, about causation, about constructs, or about whether the causal relationship holds over variations in persons, settings, treatments, and outcomes."

Before discussing individual threats to validity, this researcher wants to reiterate an overall threat to validity. As mentioned previously, the small sample size could impact all aspects of validity in this study. A larger sample would be likely to increase validity and provide more meaningful and statistically significant differences in scores if a difference occurs. Given the complexity of the emergency department setting and the difficulty gaining egress to this population, this sample was the largest attainable, given the resources available to the researcher. While this study went on longer than the researcher expected due to a low mortality rate, length of study helps somewhat to ameliorate issues with small sample size. However, a much longer study would have been helpful with reducing validity issues with sample size. At best, this study suggests that a tentative indication that this training may be effective and that more research would be beneficial.

Compared with true experimental designs, QED has an increased threat to internal and external validity. Some of these threats generally include selection bias (samples are not equivalent), testing bias (issues with repeating the same test), performance/ intervention bias (related to blinding), mortality (drop out), instrumentation bias (change

caused by method of measurement, not intervention), history bias (external events impact change), maturation bias (trend in the outcome of interest), regression to the means (groups' separation on high and low outcomes), and interaction effects (threats interact differently within each group).

The first step to maximize validity was to include controls to minimize the number and plausibility of threats in the study design. Tests that measured similar constructs were used in the study. The researcher used the ProQOL R-IV to measure overall compassion satisfaction/fatigue and the Secondary Traumatic Stress Scale to measure the related stress symptoms of particular events. These measures were validated using trauma workers and trauma/health care workers. However, they were not validated with emergency medicine physicians. These two measures are similar in that they can both be used to measure the effect (on the caregiver) of caring for people who have experienced traumatic events. The researcher expected to find a relationship between the results in the two tests. The researcher used triangulation of the interview data and survey data to lower threats to validity. Other design elements for increasing validity and ruling out alternative explanations for outcomes included a control group, training for liaisons, human protection protocol, repeated testing, baseline measures, and observation. In order to check for treatment fidelity, the study was designed using observations, surveys from participants, and daily logs. Completion of key features of the study was documented as well as observation notes (throughout periods of patient treatment, notifications and interviews). An outline was followed and notes were taking during the educational intervention to ensure consistency in the teaching method. No data was lost once it was

submitted to the researcher. Most residents participated and survey completion was good. Few participants dropped out.

The study sites were similar; urban Level One Trauma centers with similar patient populations. Baseline equivalence in the samples is reflected in similar residency entrance requirements and standardized residency training programs/requirements for EM residency programs. In initial data exploration, this researcher did not find any advantage for either group, except for the possibility of slightly higher level of education in the control group. If this advantage was present and had any effect, it should have been to diminish the impact of the intervention related to lessening Secondary Traumatic Stress Syndrome. If the samples were more similar in initial educational levels, the significance might have been greater.

In clinical field studies not all threats can be designed out of the study. For these threats, Shadish, et al. Al, suggests the use of 3 questions (2002, p. 40). This researcher will be using these questions to direct my critical analysis of validity threats:

1. How would the threat apply in this case?

2. Is there evidence that the treat is plausible rather than just possible?

3. Does the threat operate in the same direction as the observed effect, so that it would partially or totally explain the observed findings?

History.

The norm in EDs is the unpredictability of th**e** clinical presentation of the patient and the Secondary Patient's affect and thus, the residents' experience. It is possible that events at the two sites were differed occasionally, thus acting as a confounding variable.

However, given the study went on for more than 8 months, the majority of experiences at both sites were likely to have evened out somewhat.

One unexpected phenomenon which took place during the study was the H1N1 flu pandemic. However, this affected both sites and to the researcher's knowledge, no one died in the Emergency Department from this illness.

Maturation.

Residency is a time of becoming a fully trained physician. It is designed to give doctors in training a chance to practice and grow in their professional judgment and practice while under close supervision of an Attending physician. In other words, it is created to produce specific professional change within the individuals. Residency didactic content is standardized as are clinical rotations. Residents at both sites should have been growing into their professional personas at similar rates. A longer study would have strengthened validity related to maturation.

Pretesting.

Pretesting (ProQOL) should not have been an issue because the time in-between the pre and posttest was so long. It is unlikely that the pretest could have affected the residents' posttest scores.

Instrumentation.

On the whole, the instruments had good Cronbach alpha scores except for the Compassion Fatigue subscale of the ProQOL IV-R. The other subscales, the STSS and

the observations/interviews gave enough redundancy in measures for this researcher to be confident in collecting good data specific to this small sample.

Researcher became more comfortable with interview questions/probes as the study went on. Also, after the first 3 interviews the researcher found a more private room to conduct the interviews. The room was positioned so interviews were less likely to be interrupted and included more comfortable chairs. On the whole it set a better ambiance for residents to relax and give thoughtful answers.

There were no changes in the instruments. However, there were a number of times when this researcher couldn't get interview data from residents within 7 days of death notification. This time factor added the element of residents looking back at the event through a lens of more time and (imperfect) memory. This researcher did not note any qualitative difference in the answers the residents to the interview questions.

Testing.

It is possible that testing could be a threat in the STSS data due to repeating of the tests. However, in reviewing the scores in chronological order this researcher doesn't see a regression to the mean or any indication that scores begin to trend in a direction that indicate testing effect or would yield a plausible explanation for the STSS results. Repeating the test or interview could have reduced test anxiety because the residents knew what they would be asked. It could also have increased anxiety because the residents knew they would be opening themselves up to examining their feelings and responses. This would be moderated by the fact that residents had complete control over self-disclosure. This researcher didn't observe any changes in residents related to repeating tests or interviews.

It is possible that the participants who didn't complete the Post-ProQOL IV-R had test fatigue or didn't want to think about their experiences. Only a small number (3) of residents didn't complete the ProQOL IV-R. This researcher suggests that the general fatigue that builds up over a residency and the emergency medicine mindset (that unless something is life threatening it can be put on the back burner) would be the more likely reason for lack of follow through with the ProQOL.

Statistical Regression.

Statistical Regression is not a plausible threat because there were no extreme scores. This researcher plotted the data and found no outliers in any of the data.

Selection.

Selection bias is a concern in quasi-experimental design studies. To check for this the researcher analyzed pretest scores and found there were no significant differences between the samples. However, these are very small samples and may not be representative of the general EM resident population. Similarly, she didn't find extreme scores or regression to the mean. There was no reason to believe there was a plausible selection-maturation threat. Given the standardized training of EM residents and the seeming lack of initial differences (pre-intervention), there was nothing to suggest the samples were maturing at different rates. A concern at the beginning of the study was selection-history because the control site does a number of "bonding" exercises the first month of residency. This researcher dismissed this concern when she was informed that the invention site does some similar events (in the first month). These exercises only apply to first year residents.

This researcher is concerned with the small sample which could lead to Type 1 or Type 2 errors. Given not all participants completed both pre and post ProQOL IV-R, this reduced the overall *N* even more. However, every attempt was made to increase validity

Subject Attrition.

In such a small sample, every participant is important. It hurt the study when people didn't complete all the surveys or dropped out. This researcher believes there was not enough attrition to affect the study in a substantial manner more than the small sample size already affected it.

It is possible that the participants who choose to complete the study were different from the residents who chose not to complete. One of the participants who didn't complete is the resident who was dancing to the autopulse. Her decision not to complete the Post-ProQOL could be part of her avoidance behavior. When considering this threat, this researcher checked her observation notes related to who remained in the study and who dropped out. She noted similarities in the two groups. For example the "auto pulse" resident's lack of completing the ProQOL was off-set by the "Mountain Dew" resident's decision to complete. Still, differences in the residents who completed and who didn't complete would be worthy of more study.

Selection/Maturation Interaction.

Extraneous variables may have been present in individual residents' experiences and personal lives. For example, one intervention site resident's father died in the morning and that afternoon she had to give a family death notification. Given this is a

study is set in the field, these kinds are variables are uncontrollable. However, if the study had a larger sample size, these individual differences would be mitigated by a large *N*.

If there were a large number of extraneous variables at the intervention group, it could account for change in the direction of the observed effect of the STSS. However, other than the resident whose father died, I am unaware of other events that might have made residents more sensitive to families or perform death notification more compassionately, thus reducing professional stress. In fact, when I interviewed the resident whose father had died, the event seemed to have increased her self-described STSS symptoms, due to having just received notification herself.

Selection/history.

This researcher was very concerned about possible selection/history threats. This was the reason for the educational history baseline survey (needs assessment). It was important to design out this threat, if possible. Given the similar baseline of the two groups the researcher is satisfied that while this could be a possible threat, it is not a plausible threat. However, this needs further exploration with a larger sample. It would be beneficial to study the effectiveness of different types of education (lecture vs. readings, etc.) as evaluated by medical residents.

Subject Effects.

The two groups did not meet/interact during the study. For intervention site residents, after the initial paperwork, all study documents were done in private. There was no rivalry among the residents related to the study (or anything else) that this

researcher observed. The residents did get physically tired over the course of the study due to the demands of the residency, but this would have occurred at both sites.

Diffusion of Treatment.

Because the two groups never met diffusion of treatment between residency sites was not an issue. However, there were six residents at the intervention site who did not participate in the intervention. A number of those did death notifications and completed the STSS survey(s). There could have been diffusion of treatment between residents at the intervention site. There is no indication that this is a plausible threat given it would have acted in the opposite direction of the observed STSS results.

Experimenter Effects.

It's difficult to evaluate the effect of the researcher's presence as an observer/participant in the intervention site ED. However, she feels she must be considered part of the intervention. Her presence was necessary to gain full understanding of the environment and to gain the trust of the residents for open disclosure during interviews. However, it may have been an additional source of support for residents that may or may not be provided by someone to residents in the control site. This may have been mitigated by the knowledge that I was taking notes and making observations about their treatment of patients/families. It is hard to know how to quantify the participant-observer aspect of the resident's presence. It would be beneficial for further research to occur in this area. Chaplains and social workers would be excellent in the role of support for the EM residents as this is often considered part of their role, if

other demands do not call them away. A study involving a dedicated professional for this role might produce interesting results and further the field.

This researcher was known to staff and some Attending physicians in the intervention site ED because this hospital was her chaplaincy residency site. However, she had been away long enough to be new to the majority of residents. This researcher believes that the groundwork was laid for trust when the residents observed her interaction with the staff and Attending physicians. The glue for holding this trust together was the knowledge that doctors Dhindsa and Reid were involved in the study. They are both well liked and respected. All these factors improved the researcher's credibility and made it possible to gain an initial foothold of trust with the residents.

An issue was raised by committee members related to whether the residents would try to please me in their answers or actions. As I have stated before, the ED is not a place where people try to please others. There is no time for that in the ED mindset and independence of thought and action are a necessary quality (and highly valued) in physicians and staff. Also, the project was presented as a study designed to improve death notification training for residents. So if a resident was prone towards pleasing someone, their actions would have been to complete the surveys and give honest answers on improving the training.

The researcher did acquire a nickname, "Dr. Death", and frequently, residents would joke about how the patient had survived, so the patient couldn't be part of the study. Members of the staff joked with me much more than residents and were helpful in giving me a "heads up" when something serious was in transport. When this researcher

came into the hospital sometimes staff would stop to tell her if there is anything to check on or if there had been a death.

When a patient who was very ill or injured came in (and the researcher was on site or paged to come in), this researcher would appear near the patient's treatment area and take notes during treatment. This researcher does not doubt that her presence emphasized the seriousness of the patient's condition. But in these cases, the residents and Attending physicians were focused appropriately.

All in all, this researcher thinks the biggest effect she may have had was in the sense of support residents may have felt. They knew she was going with them when they delivered the news. At the beginning of the study, a few of them ran through the protocol verbally and asked if they forgot anything, but that stopped by mid-August. Residents were outspoken to staff, especially clinical coordinators, about how helpful the study was to them and how much they enjoyed feedback on their interactions with families. One resident said, "This study is a hit because we never get to talk about ourselves. With this, we can."

This researcher is unfamiliar with the relationships between residents and Attending physicians (or staff) at the control site, but the literature view reported that residents are more likely to talk amongst themselves than with their Attending Physicians. So generally, residents are apt to close off that possible area of support. There is no reason to believe this is different at either site. This doesn't negate the affect of this researcher's presence in the ED at the intervention site. This could be a plausible threat and bears further research on the impact of a resident support professional on site.

Instrument Order Effect.

Instrument order does not offer any plausible threats because of the length of the study.

Novelty Effect.

The only novelty effect would have been active when the resident requested 15 minutes (away from patients) to participate in the interview. However, residents didn't appear excited about getting away from the "action" of the ED. This researcher doesn't see a novelty effect that would lead to a plausible alternative explanation for the direction of the effect. It is possible that heightened self-awareness due to being in the study may have occurred in both control and intervention groups.

Treatment Replications.

Treatment/measures took place as planned in the study design. It was understood that some residents would have multiple death notification events and take the STSS as many times as events.

Treatment Fidelity.

The treatment was standard across the study. The same email was sent out to both groups weekly. The same tests were given in the same time period. As noted previously, education intervention was equivalent both times it was given. Note logs, interviews, observations were part of the study design for strong treatment fidelity.

Participant Effects.

Two residents with exaggerated behavior both dropped out after intervention. One is noted for not involving herself in extraneous events in the ED. The other talked quite a bit about his personal experience with death in his family and his knowledge/skills during death notification training (intervention). He was very anxious to get to his ED rotation and away from other units, but came to his ED rotation late in the study. He may have lacked motivation because of these two reasons.

Again, this is an area where the small sample size is especially detrimental. This researcher is unable to give a general assessment of the participant effect due to the small sample size. She is unable to state with certainty that the study sample is representative of the general EM resident population due to the small sample size. This threat could be plausible.

Researcher Effects.

All data was analyzed using SPSS and all pertinent data is reported. Alpha remained consistent throughout the study. This researcher did not "fish" for results by repeating tests. The measures chosen were sensitive to the constructs being measured. This researcher didn't look at data until she was no longer in field so it wouldn't interfere with interactions with participants. There was no way to avoid seeing who was responding because of using email reminders and the zip code issues that had to be corrected.

The researcher made an error in reporting her initial results. A late survey correction changed the results of the Compassion Satisfaction subscale from $p<.05$ to $p<.06$. Before the correction, significance would have been in the direction of lower

potential compassion satisfaction in the intervention group as compared with the control group.

Investigator Paradigm Effect.

This was an investigative study. While the researcher hoped that the intervention would help resident's stress levels, she was open to hearing ideas about other possible ways this could occur. The study would have been valuable even if it yielded different results because this study is just one piece in a large puzzle. Any data would be a helpful addition to the literature.

Validity Conclusions

Given the lack of validity of the Compassion Fatigue subscale we cannot evaluate whether the educational intervention had any effect on CF. The intervention did not have a significant effect on increasing the potential for compassion satisfaction. Both groups increased compassion satisfaction, but the control group increased more than the intervention group. The intervention, given a larger sample, may produce a significant effect on lowering burnout in the intervention group. Both of these would be significant in this study at an alpha of .10. The intervention also had a significant effect on lowering Secondary Traumatic stress (short term symptoms of stress).

These results raise questions that can only begin to be explored through further research with a large sample. There are many possible explanations to be explored. If the study had shown a statistically significant decrease in compassion satisfaction it could be interpreted to mean that the educational intervention (with this researcher included) eroded the coping mechanisms of residents and made them less apt to gain compassion satisfaction from their work. It could also mean that the intervention group had more self-

awareness and thus, were more open to their feelings and this decreased their compassion satisfaction. If this were the case it would be interesting to do a longitudinal study and explore this over a period in their career to see how this affects their bedside manner, career sustainability, personal/professional resilience and potential for STSS, burnout and compassion satisfaction/fatigue.

The possibility of results that could contradict each other (lowering STSS and burnout while decreasing compassion satisfaction) open doors for potential research on the professional and intrapersonal experiences of EM residents. A professional goal of this researcher's is to understand resiliency as it relates to reducing burnout and STSS. Some people seem to bounce back from events/experiences more readily than others. The questions this study raises in the potentially contradictory results increase this researcher's curiosity in how to measure resiliency and teach physicians to be more resilient in their professional lives. What is different about the people who bounce back from difficult experiences and can we teach others to do so?

There were some other interesting data which could use further investigation as well. The data showed a number of folks who had high burnout rates and high (potential for compassion) satisfaction simultaneously. These would seem to contradict themselves. Compassion satisfaction usually lowers the potential for burnout. This researcher asked a palliative care clinician (who trains residents and fellows in end of life conversations) for input on this phenomenon. She gave several ideas on what might be occurring for these physicians:

> (Maybe) …they still found themselves running out of compassion but doing a good job, i.e.: knowing how to give death notification well helped

> them be able to look in the mirror every night and say "job well done." ….I think that no matter what emotionally you are feeling, if you feel you have served someone well, .even if (you are) not really experiencing a ton of compassion, you have a sense of caring for someone and also fulfilling their medical needs, even if you haven't connected with them on as deeply compassionate a basis as you did with someone else. You were still kind and considerate and sensitive to their needs. I know that is really important for me as a physician, I think it is generalizable to others.

Another possible explanation comes from a physician who works with a similar population to EM doctors and is nearing retirement. He explains that doctoring is a "skin trade", similar to prostitution. He is referring to certain medical specialties where you are required to serve anyone who comes into your facility and the fact that to examine them you need to physically touch the patient. This sense of lack of control in who you must serve/touch could increase risk of burnout. And even though there are days he gets through along by saying (of patients), "I hate them, I hate them all", he still enjoys the practice of medicine overall. He may be one in the group of physicians who would score high on burnout and compassion satisfaction. Other explanations would be physicians who are very altruistic and other focused so while they are burnt out on certain aspects of medicine, they still receive intrinsic satisfaction from helping people. And finally, there are some people that thrive on pressure and may not like aspects of medical practice but enjoy the adrenaline rush of the emergency medicine environment.

This researcher found that the comparison of the STSS and the observation/interview data raised questions of whether the informal curriculum (assumptions about how fully trained physicians behave gathered during clinical observation by residents) influenced the residents' answers on the STSS. For example, the resident who was kicked in the chest while giving a death notification yet went on to talk about drinking Mountain Dew and the stressful paperwork. The researcher is reminded of Knopf's comment that during training residents learn that "doctors should not have emotional reactions to death; and death is a failure and caring for the dying is not an important part of medicine… and avoidance and doing one's work were the coping styles that were modeled by the team"(Rhodes-Kropf J, 2005, p. 634). This researcher compares "Mountain Dew" resident's response to the "green" residents' comments about how they (not the news they were bringing) were about to ruin someone's life. It is hard to fathom that there can be such a fundamental change in physicians as their training progresses. This seems to be explained by what Spiro describes as the dehumanizing process of becoming a physician:

> the isolation, long hours of service, chronic lack of sleep, sadness at prolonged human tragedies, and depression at futile and often incomprehensible therapeutic maneuvers turn even the most empathic . . . from caring physicians to tired terminators. Our energy gets us into medical school and after that, little time remains for contemplation (Spiro, 1992, p. 844).

This researcher compares resident's responses to patients and families to the general environment of the ED and finds strong contrasts. It is a little bit like patients are guests

that stay too long or are to high maintenance for the hosts. Among staff, the ED environment can be a joyful, fun setting with an abundance of camaraderie. Once one is seen as a part of the environment by withstanding the trials of trauma, death, and human misery, one is embraced as family. While this researcher saw disagreements among the staff similar to what one would expect in any workplace, there is always an underlying feeling that when things get rough, everyone will pitch in and do what is best for the patient. There is also redundancy of roles/tasks. This allows staff to rely on each other because they know someone can always step in and contribute to patient care. This helps build trust among the entire staff of the ED. This researcher has the sense that for people who work in these gritty environments and see some of the saddest aspects of human existence; the work is more of a vocation than a job. In other words, the work has meaning and that is why some people stay in the field of emergency medical care.

The earnestness with which residents asked this researcher for feedback was telling. Except for the most jaded residents, everyone wanted feedback on how they could do death notification better. They also said they enjoyed taking the surveys and participating in the interviews. This information was told to the researcher as well as passed along by other staff members to the researcher. The explanation from residents was that they rarely get asked questions like those in the interview that allow them to talk about their experiences.

This researcher believes the answers residents gave on the surveys are true, even though residents may not have full access to their personal feelings due to their coping mechanisms and the lessons of the hidden curriculum. . In medicine, emergency physicians deal with life and death every day. There is no time for lies or saying things

just to please someone. There is a sense that if you can't deal with reality, you are in the wrong place. This is why this researcher believes that residents answered truthfully and had no investment in saying what they thought this researcher would want to hear.

Study Conclusions

In stating these conclusions, the researcher encourages the reader to remember that this was a small sample of EM residents. The study gives only a tentative indication that the training may be effective in some areas. Realistically, the study just gives a small piece of the puzzle. Much more research is needed to see the big picture.

Related to emergency medicine residents in an urban, level one trauma center; the data infer that an educational intervention on death notification skills with a short protocol lecture and role plays:

1. May have increased residents' confidence in their ability to give compassionate death notification to NOK as compared with residents who did not have this educational intervention.
2. Residents who had the educational intervention showed less potential for compassion satisfaction than their non-intervention counterparts. This could be significant with a larger sample.
3. The intervention group showed less risk for burnout than the control group (although it would only be significant at $p < 0.10$ with this small number of participants).
4. The residents who had the intervention reported less Secondary Traumatic Stress symptoms than residents who did not have the intervention.

In such a stressful profession as the practice of emergency medicine, finding ways to reduce burnout and STSS symptoms early in a physician's career could provide a lifetime of benefits to physicians and their patients.

Recommendations

There are a number of changes that should be considered in improving the educational intervention. The most often repeated comment was that the role plays weren't "real" enough. The best solution to this issue would be to have a panel of Secondary Patients who have previously received death notification be part of a panel and talk about their experience. This could occur in-between the short presentation of protocol and the role play (one role play) or at the beginning of the workshop. Without this, it seems we may be reinforcing the informal curriculum by giving people the opportunity to show that death notification can be taken lightly in a role play.

Given the severe time constraints, it would also help to have a shorter protocol presentation and only one role play with a trainer in each group. In this study, we also chose to begin the training with role plays that illustrate how to give notification badly. The role players did it so well that it was humorous, even though based on actual events. While this was done intentionally to help residents relax with a difficult topic and get over their fear of role-playing, I believe that ultimately it was detrimental. We should trust that these physicians in training can handle these difficult scenarios and not try to make it easier through humor.

The small sample size was a result of the difficult nature of gaining access to this population, availability of training time and researcher time, and fiscal and human resources. As mentioned previously, studies with larger samples would be beneficial.

This researcher would also recommend using different identifiers. Zip codes and initials proved to be problematic. This issue added many hours to this study.

This researcher would also recommend asking the participants' ages and number of previous death notifications. This data would increase validity by giving more information about the sample's baseline.

Final thoughts

As educators we share a common belief that education has benefits for participants. The change the ACGME has initiated in the last twenty years has contributed and is contributing to changes in the way physicians are trained. As difficult as was to conduct this study, it is questionable whether it would have been possible to twenty years ago. While much will continue in a traditional teaching method, this researcher proposes that there is much to be gained by listening to resident's recommendations on teaching effectiveness. Further study on how EM residents experience and cope with their training would also add to creating valuable curriculum.

The field of clinical educational research in emergency medicine is in its infancy. There are a number of hospitals that are showing interest in this field and the teaching of emergency physicians to conduct educational research has begun. It is this researcher's hope that this study will add to the literature and contribute to future research. It certainly adds many questions which could help inform new avenues of research with this population.

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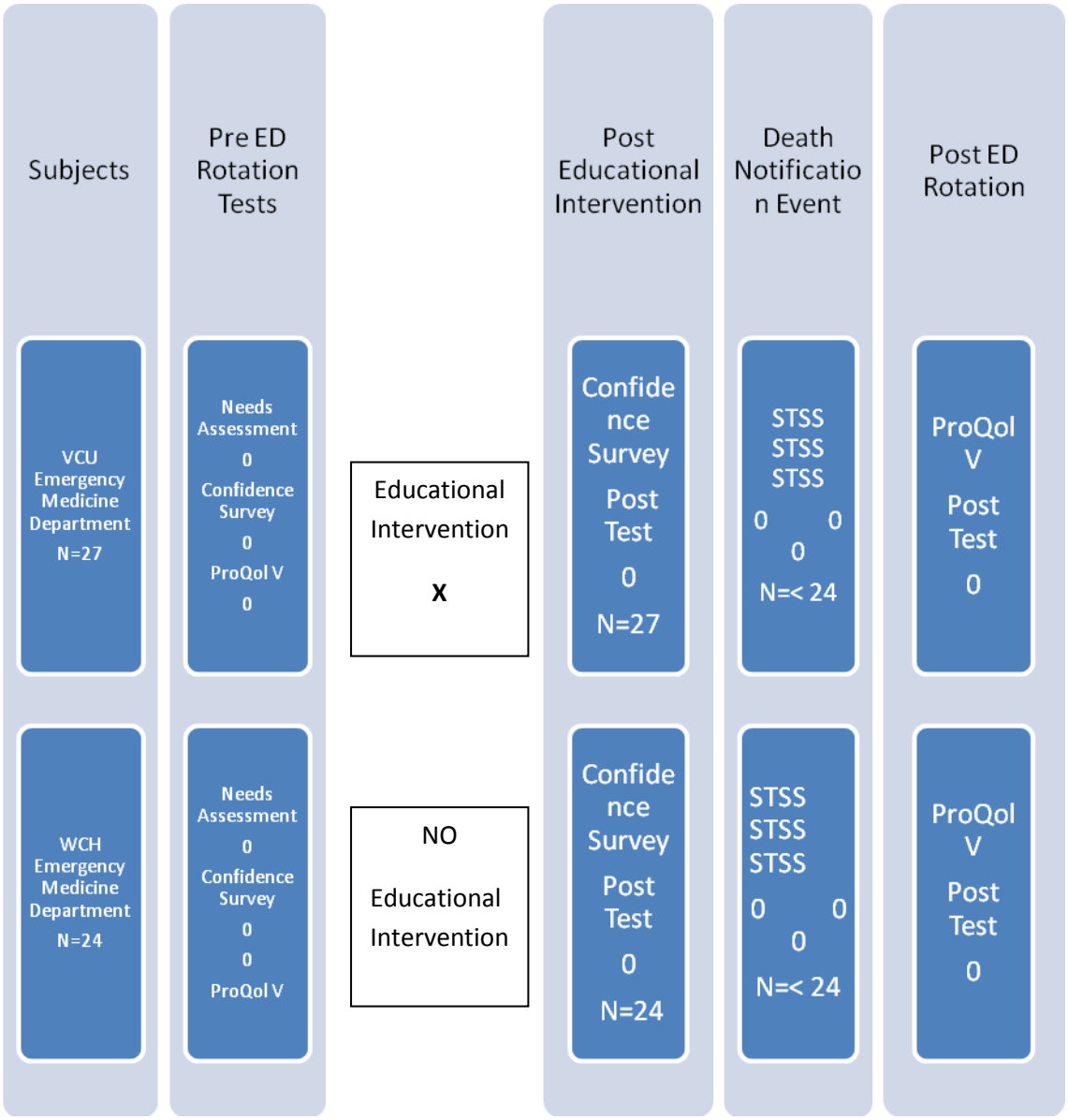
Appendix 1

Appendix 1.1: Treatment Diagram

Death Notification and Compassion Fatigue in a

Level One Urban Trauma Center

Quasi-Experimental Design



Appendix 1.2: Death Notification Protocol Checklist (and Observation checklist)

_____ Resident's first two letters of last name and 5 digit zip code of parents/next of kin

Directions: Please indicate whether the physician completed the stated actions, with

Y = completed (Yes) **N = did not complete (No)**

The Physician…

G—Gather

_____ 1. Ensured that all important survivors were present prior to delivery of the death notification.

R—Resources

_____ 2. Facilitated access to supportive resources.

I—Identify

_____ 3. Clearly stated the name of the patient.

_____ 4. Clearly stated his/her role in the care of the patient.

Check for Understanding

_____ 5. Determined the level of knowledge the survivors possessed prior to their arrival in the waiting room.

E—Educate

_____ 6. Clearly indicated the cause of death in an understandable manner.

V—Verify

_____ 7. Avoided using euphemisms.

Space

_____ 8. Paused to allow the family to assimilate the information before discussing details.

I—Inquire

_____ 9. Encouraged the survivor to summarize important information to check for understanding.

N—"Nuts and bolts"

_____ 10. Explained and addressed post-mortem details, including organ donation.

G—Give

_____ 11. Established personal availability and provided contact information to answer questions for the survivor at a later time.

Appendix 1.3: Confidence Survey

_____Resident's first letters of last name and Zip Code of parents/Next of Kin

Confidence Survey

Directions: For each item below, indicate how confident you are in your ability to perform that activity in an encounter with a survivor(s). Indicate your confidence level by circling appropriate number from 1 to 5, with 1 indicating a complete lack of confidence and 5 representing complete confidence.

SCALE: 1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

How confident are you in your ability to....

1. Make the professional transition from treating the patient to caring for the survivors?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

2. Ensure that all important survivors are present prior to your delivery of the death notification?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

3. Identify and utilize support resources to assist yourself and survivors during a death notification?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

4. Interact with survivors in such as way to best ensure your safety?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

How confident are you in your ability to....

5. Introduce yourself to survivors and explain your role in the preceding events?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

6. Determine the survivors' understanding of the patient's condition before you inform them of the patient's death?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

7. Inform and educate survivors compassionately about the death of a loved one?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

8. Verify for the survivors that the patient has died by using unambiguous phrases like "is dead"?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

9. Identify and be comfortable with survivors' need for silence while they take in the news?

   1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

10. Determine if the survivors need further information about the patient's death?

    1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

11. Determine if the survivors comprehend that the patient has died?

    1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

12. Be prepared for the possible range of survivor reactions?

    1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

How confident are you in your ability to....

13. Feel like you have delivered this news in the best way possible?

1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

14. Manage your personal stress (healthfully) after giving a death notification?

1−Not at all 2−slightly 3−somewhat 4−mostly 5−completely

Appendix 1.4: Residents Need Assessment

_____Resident's first letters of last name and Zip Code of parents/NOK

_____Year of Residency

In an effort to ensure that emergency medical residents are able to meet the Emergency Medicine Communication and Interpersonal Skills Competencies (C-IP) set by the Accreditation Council for Graduate Medical Education Outcome Project have developed this survey to assess the educational background of emergency medical residents. ACGME competencies are in your handouts. This survey focuses on the competences needed for delivering "bad news"/death notification.

Please fill out this survey and give it to Rev. Enid A. Virago at the start of the workshop.

Check the appropriate boxes that best describe the education you received related to death notification. Narrative comments may be made on the back of this form.

In medical school I received education related to death notification through:

Reading

- Book on this topic
    - None
    - 1
    - 2 or more

- Articles on this topic
  - None
  - 1
  - 2 or more

- Lecture on this topic
  - None
  - 15 minutes
  - 30 minutes
  - 45 minutes
  - 1 hour
  - 2 hours
  - More than 2 hours
  - Lecture included role plays
  - Lecture included video clips

- Proctoring
  - None
  - Proctor worked closely with me
    - Answering questions
    - Modeling competency
    - Role playing and assessing my areas for growth

Was your prior training in end of life care/communication adequate?

- Yes
- No

Are you confident you have the communication skills necessary to interact with patients and other health professionals?

- Yes
- No

Would death notification training/protocol be helpful to you?

- Yes
- No

Would training in self-care and coping with survivors' emotional responses be helpful for you?

- Yes
- No

I feel confident that I could pass the AGCME competencies in communication and interpersonal skills

- Yes
- No

Comments regarding the education provided to me related to death notification:

Comments regarding skills that would be helpful to me:

Appendix 1.5: ProQOL R-IV

PROFESSIONAL QUALITY OF LIFE SCALE

Compassion Satisfaction and Fatigue Subscales—Revision IV

Treating Patients in the Emergency Department puts you in direct contact with their lives. As you probably have experienced, your compassion for those you treat has both positive and negative aspects. We would like to ask you questions about your experiences, both positive and negative, as a physician. Consider each of the following questions about you and your current situation. Select the number that honestly reflects how frequently you experienced these characteristics in the ***last 30 days***.

0=Never	1=Rarely	2=A Few Times	3=Somewhat Often	4=Often	5=Very Often

_____ 1. I am happy.
_____ 2. I am preoccupied with more than one person I've treated.
_____ 3. I get satisfaction from being able to treat people.
_____ 4. I feel connected to others.
_____ 5. I jump or am startled by unexpected sounds.
_____ 6. I feel invigorated after working with patients I treat.
_____ 7. I find it difficult to separate my personal life from my life as a physician.
_____ 8. I am losing sleep over the traumatic experiences/injuries of my patients.
_____ 9. I think that I might have been "infected" by the traumatic stress of those I treat.
_____ 10. I feel trapped by my work as an Emergency Medicine physician.
_____ 11. Because of my patients, I have felt "on edge" about various things.
_____ 12. I like my work as a EM physician.
_____ 13. I feel depressed as a result of my work as a EM physician.
_____ 14. I feel as though I am experiencing the trauma of patients I have treated.
_____ 15. I have beliefs that sustain me.
_____ 16. I am pleased with how I am able to keep up with Emergency Medicine techniques and protocols.
_____ 17. I am the person I always wanted to be.
_____ 18. My work makes me feel satisfied.
_____ 19. Because of my work as a physician, I feel exhausted.
_____ 20. I have happy thoughts and feelings about the patients I treat and how I could help them.
_____ **21.** I feel overwhelmed by the amount of work I have to deal with.
_____ 22. I believe I can make a difference through my work.
_____ 23. I avoid certain activities or situations because they remind me of frightening experiences of the patients I treat.
_____ 24. I am proud of what I can do to treat patients.
_____ 25. As a result of my work as an EM physician, I have intrusive, frightening thoughts.
_____ 26. I feel "bogged down" by the system.
_____ 27. I have thoughts that I am a "success" as a physician.
_____ 28. I can't recall important parts of my work with trauma victims.
_____ 29. I am a very sensitive person.
_____ 30. I am happy that I chose to do this work.

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Disclaimer

This information is presented for educational purposes only. It is not a substitute for informed medical advice or training. Do not use this information to diagnose or treat a health problem without consulting a qualified health or mental health care provider. If you have concerns, contact your health care provider, mental health professional, or your community health center.

_____ Resident's first letters of last name and Zip Code of parents/NOK

Appendix 1.6: Secondary Traumatic Stress Scale

The following is a list of statements made by persons who have been impacted by their work with traumatized patients. Read each statement then indicate how frequently the statement was true for you in the past **seven (7) days** by circling the corresponding number next to the statement.

Items	Never	Rarely	Occasionally	Often	Very Often
1.I felt emotionally numb	1	2	3	4	5
2.My heart started pounding when I thought about my work with patients	1	2	3	4	5
3.It seemed as if I was reliving the trauma(s) experienced by my patient(s)	1	2	3	4	5
4.I had trouble sleeping	1	2	3	4	5
5.I felt discouraged about the future	1	2	3	4	5
6.Reminders of my work with patients upset me	1	2	3	4	5
7.I had little interest in being around others	1	2	3	4	5
8.I felt jumpy	1	2	3	4	5
9.I was less active than usual	1	2	3	4	5
10.I thought about my work with patients when I didn't intend to	1	2	3	4	5
11.I had trouble concentrating	1	2	3	4	5
12.I avoided people, places, or things that reminded me of my work with patients	1	2	3	4	5
13.I had disturbing dreams about my work with patients	1	2	3	4	5
14.I wanted to avoid working with some patients	1	2	3	4	5
15.I was easily annoyed	1	2	3	4	5
16.I expected something bad to happen	1	2	3	4	5
17.I noticed gaps in my memory about patient treatment	1	2	3	4	5

Appendix 1.7: After Death Notification Interview Questions

_____ Resident's first letters of last name and Zip Code of parents/Next of Kin

Date/Time of Interview_____

Date/time Notification_____

1. What was it like for you to give this "bad news" (or death notification)?

2. How emotionally powerful was this event for you? On a scale of 1-10 (10 being the worst)

3. In what ways, if any, did you find yourself identifying with the patient and/or the patient's family?

4. What aspects of caring for this patient/patient's family were satisfying/disturbing?

   .

5. How did you (are you) managing your feelings?

   .

6. What support/information could have made this a better experience?

7. How will this impact future patient care/death notification?

8. How can we improve the teaching of death notification skills?

Appendix 1.8: Intervention Site Likelihood of ED Deaths

Sunday

2nd likely death event 4:00 AM – 6:00 AM

likely ED deaths 6:00 AM – 8:00 AM

2nd likely death event 8:00 AM – 10:00 AM

3ird likely10:00 AM – 12:00 PM

3ird likely event 10:00 AM – 12:00 PM

likely ED deaths 12:00 PM – 2:00 PM

2nd likely death event 2:00 PM – 4:00 PM

2nd likely death event 4:00 PM – 6:00 PM

Monday

likely death event 2:00 AM – 4:00 AM

2nd likely death event 6:00 AM – 8:00 AM

2nd likely death event 6:00 PM – 8:00 PM

likely ED deaths 10:00 PM – 12:00 AM

Tuesday

3ird likely 4:00 AM – 6:00 AM

3ird likely6:00 PM – 8:00 PM

3ird likely8:00 PM – 10:00 PM

3ird likely 10:00 PM – 12:00 AM

Wednesday

likely ED deaths 12:00 AM – 2:00 AM

2nd likely death event10:00 AM – 12:00 PM

3ird likely2:00 PM – 4:00 PM

3ird likely4:00 PM – 6:00 PM

2nd likely death event6:00 PM – 8:00 PM

Thursday

2nd likely death event 10:00 AM – 12:00 PM

2nd likely death event 8:00 PM – 10:00 PM

2nd likely death event 10:00 PM – 12:00 AM

Friday

likely ED deaths 2:00 AM – 4:00 AM

2nd likely death event 8:00 AM – 10:00 AM

likely ED deaths 4:00 PM – 6:00 PM

Saturday

2nd likely death event 12:00 AM – 2:00 AM

3ird likely 4:00 AM – 6:00 AM

2nd likely death event 12:00 PM – 2:00 PM

3ird likely 2:00 PM – 4:00 PM

2nd likely death event 4:00 PM – 6:00 PM

3ird likely 6:00 PM – 8:00 PM

2nd likely death event 8:00 PM – 10:00 PM

Appendix 1.9: Trauma Alert Criteria

DELTA

-CONFIRMED SYSTOLIC BP <90 AT ANY TIME IN ADULTS AND AGE SPECIFIC FOR CHILDREN

-RESPIRATORY COMPROMISE, AIRWAY OBSTRUCTION OR INTUBATION

-TRANSFER PATIENTS FROM OTHER HOSPITALS RECEIVING BLOOD TO MAINTAIN VITAL SIGNS

-GLASGOW COMA SCALE ≤8 WITH MECHANISM ATTRIBUTED TO TRAUMA

-GUNSHOT WOUNDS TO THE ABDOMEN, NECK, OR CHEST

-STAB WOUND TO NECK, CHEST, ABDOMEN, OR HEAD **AND HEMODYNAMICALLY UNSTABLE**

-FLAIL CHEST

-TWO OR MORE PROXIMAL LONG BONE FRACTURES

-PARALYSIS

-MAJOR BURNS (PARTIAL OR FULL THICKNESS BURNS GREATER THAN 40% TOTAL BODY SURFACE AREA-TBSA)

-A PATIENT MAY BE CLASSIFIED AS A DELTA ALERT AT ANY TIME BY THE EMERGENCY MEDICINE PHYSICIAN AT HIS/HER DISCRETION

ECHO

-STAB WOUNDS OR DEEP PENETRATING WOUNDS TO THE ABDOMEN, NECK OR CHEST

-STAB WOUNDS OR DEEP PENETRATING WOUNDS TO EXTREMITIES PROXIMAL TO ELBOW OR KNEE

-COMBINATION OF TRAUMA AND BURNS

-BURNS ASSOCIATED WITH INHALATION INJURY

-CIRCUMFERENTIAL THIRD DEGREE BURNS

-HIGH VOLTAGE ELECTRICAL BURNS, INCLUDING LIGHTENING INJURY

-LARGE EXPOSURE CHEMICAL BURNS

-PELVIC FRACTURES

-OPEN AND DEPRESSED SKULL FRACTURE

-AMPUTATION PROXIMAL TO WRIST OR ANKLE

-EJECTION FROM AUTOMOBILE

-DEATH IN SAME PASSENGER COMPARTMENT

-EXTRICATION TIME <20 MINUTES

-FALLS <20 FEET FOR ADULTS, <10 FEET OR 2-3 TIMES HEIGHT OF CHILD

-ROLLOVER

-HIGH SPEED AUTO CRASH <40 MPH AND;

*MAJOR AUTO DEFORMITY <20 INCHES

*INTRUSION INTO PASSENGER COMPARTMENT <12 INCHES

-AUTO-PEDESTRIAN/AUTO-BICYCLE INJURY WITH SIGNIFICANT <5MPH IMPACT

-PEDESTRIAN THROWN OR RUN OVER OR WITH SIGNIFICANT <20 MPH IMPACT

-MOTORCYCLE CRASH <20 MPH OR WITH SEPARATION OF RIDER FROM BIKE

CONSIDER ACTIVATION

-AGE <5 OR <55

-CARDIAC DISEASE, RESPIRATORY DISEASE

-INSULIN-DEPENDENT DIABETES, CIRRHOSIS, OR MORBID OBESITY

-PREGNANCY

-IMMUNOSUPPRESSED PATIENTS

-PATIENTS WITH BLEEDING DISORDER OR PATIENTS ON ANTICOAGULANTS

Appendix 1.10: Resident's comments from the Post-Confidence Survey

Question 1

Comments regarding the death notification education provided to me related to its effectiveness, length, and helpfulness:

Relatively effective. Reviewed what is important to say and what may be less helpful. Length was good, as it was split into several sessions. Not sure the role playing is especially helpful beyond word choice because it's nearly impossible to simulate something so dramatic.

Have had plenty of education but that alone is not enough. I need experience. Lastly, part of whether someone is good at giving bad news is just personality--education cannot do much for this.

I had the GRIEV_ING training in my final year of medical school and again in my first year of residency. It solidified the concepts well for me.

Definitely went over it in med school. But it seemed less real or important as it does now.

Role playing was helpful as was watching effective notifications (whether in person or in video). Not just talked about.

Felt it was effective in lecture form. Without any role playing

Previous training... Focused on stages of grief, how to interact with other providers and family members, but seemed out of place at the time.

It was good. Focused more on "breaking bad news" in general.

Should add a section relating to resident's personal experience that may aid in this part of their jobs.

Lecture with perhaps examples, role playing so that 1st time notification can be praciced rather than right in front of the patient's family

It was mostly role playing and an article on empathy and what to say. I found watching residents give death notification more helpful.

Is there a place to document the training we just received, less than 1 year ago

Question 2

What specific skills would you like to be taught in a death notification?

Best way to start and proceed with this conversation. I've never given a death notification or been trained in it - although my medical school did provide good training in giving bad news (though not death in particular).

How to deal with emotional responses of families?

When to leave the room and let them be with themselves?

using the word "dead" specifically, be brief and be available to answer any questions and go in as much detail as the family wants, but not necessarily go in to all the details immediately if they are not ready for it.

What not to do or so. What choice of words or phrases is most helpful / least distressing to families. When and how it is appropriate to leave the room.

How to respond to different reactions.

What specific words/phrases are good to use and which ones people typically react poorly to. How to broach the subject of organ donation sensitively but in a timely manner.

Imparting to a family that I care about their loved one

how to respond to certain cultures grieving

The best way to word the situation specifically would be helpful. I have been taught at length about delivering bad news and choosing a quiet place to sit, asking what they know, what they want to know, and being direct, but examples on how specifically people give notification would be helpful to watch.

What NOT to say. How to physically set up the room. Special issues with notifying about death of children or in trauma situations.

education on what parts are to be filled out by housestaff.

How to appropriately fill out paperwork and discuss matters with families

The best way to approach the subject with patients

Possibly have a list of support groups to give to families

things to say, what not to say

How to properly tell someone there loved one has died - what to omit, what to soften, etc.

Telling bad news

distancing myself from patients

how to deal with violently emotionally patients (families)

non-verbal communication (cueing) of how family will respond

Different approaches to deliver the news of a death

how to deal with hysterical, violent families/friends